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Pang

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(45) **Date of Patent: *Jul. 10, 2012**

(54) **SYSTEM FOR POLICING JUNK E-MAIL MESSAGES**

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(73) Assignee: **Fortune Communications, L.L.C.**, Dover, DE (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 77 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

(60) Continuation of application No. 11/862,195, filed on Sep. 27, 2007, now Pat. No. 7,685,242, which is a division of application No. 10/656,502, filed on Sep. 4, 2003, now Pat. No. 7,275,082, and a continuation of application No. 11/841,883, filed on Aug. 20, 2007, now Pat. No. 7,779,080, which is a continuation of application No. 10/656,502, filed on Sep. 4, 2003, now Pat. No. 7,275,082, which is a continuation of application No. 09/353,537, filed on Jul. 14, 1999, now abandoned.

(60) Provisional application No. 60/093,120, filed on Jul. 15, 1998.

(51) **Int. Cl.**
G06F 15/16 (2006.01)

(52) **U.S. Cl.** **709/206**

(58) **Field of Classification Search** 709/206
See application file for complete search history.

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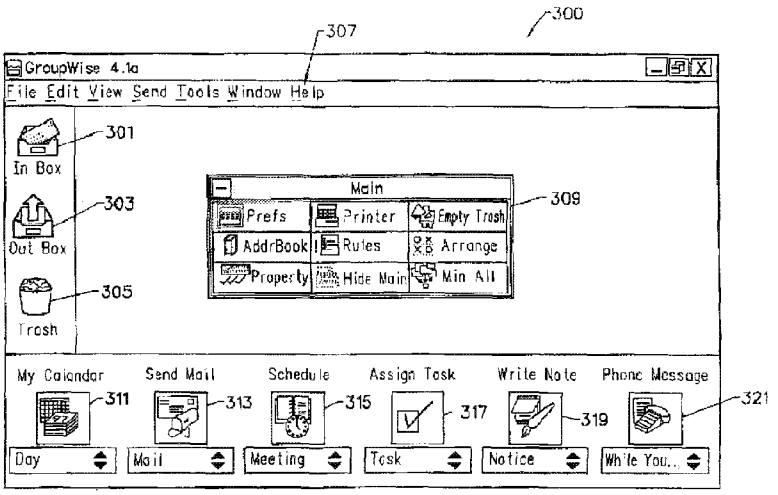
Primary Examiner — Minh-Chau Nguyen
(74) *Attorney, Agent, or Firm* — Stolowitz Ford Cowger LLP

(57) **ABSTRACT**

A system for policing an unsolicited e-mail communication. The system has a plurality of clients, each coupled together using a wide area network of computers, such as the Internet or an interne. Each of the clients is adapted to send an indication of an unsolicited e-mail message through an e-mail device for a display. The system also has a policing server coupled to each of the plurality of clients through the wide area network of computers. The policing server is adapted to receive the indication from at least one of the clients. The e-mail device comprises a SPAM icon on the display. The SPAM icon is adapted to send the indication from the client to the policing server.

20 Claims, 11 Drawing Sheets



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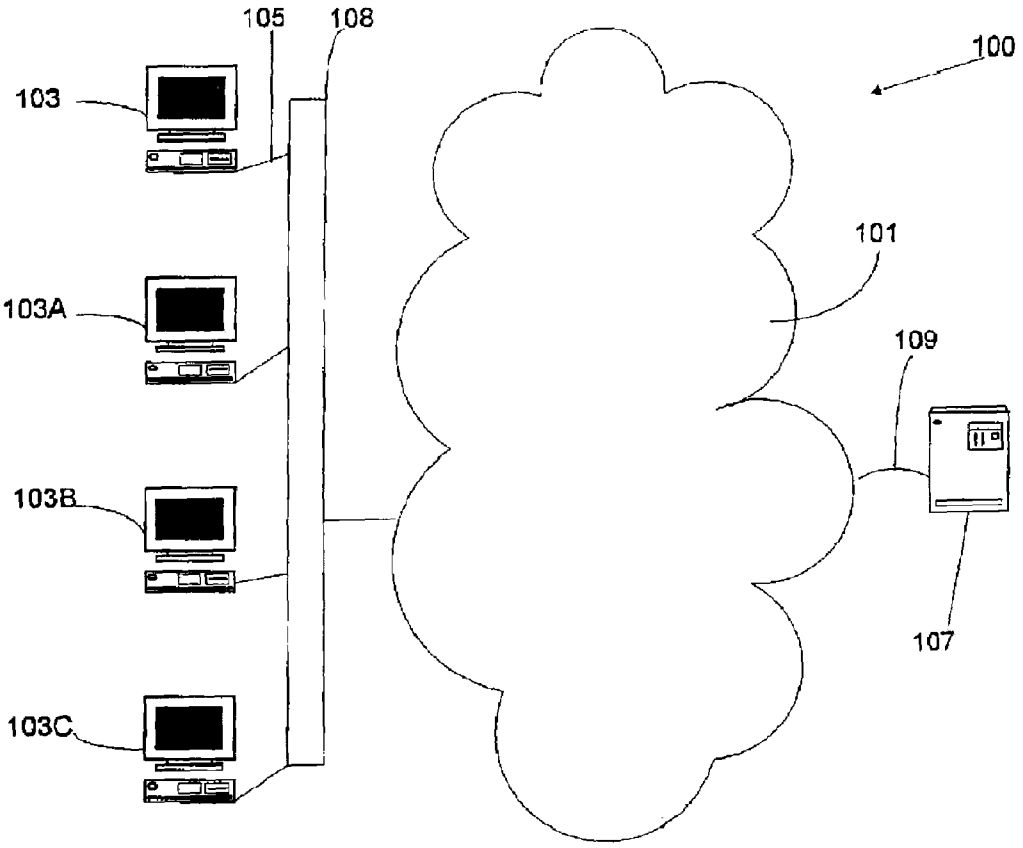

FIG. 1

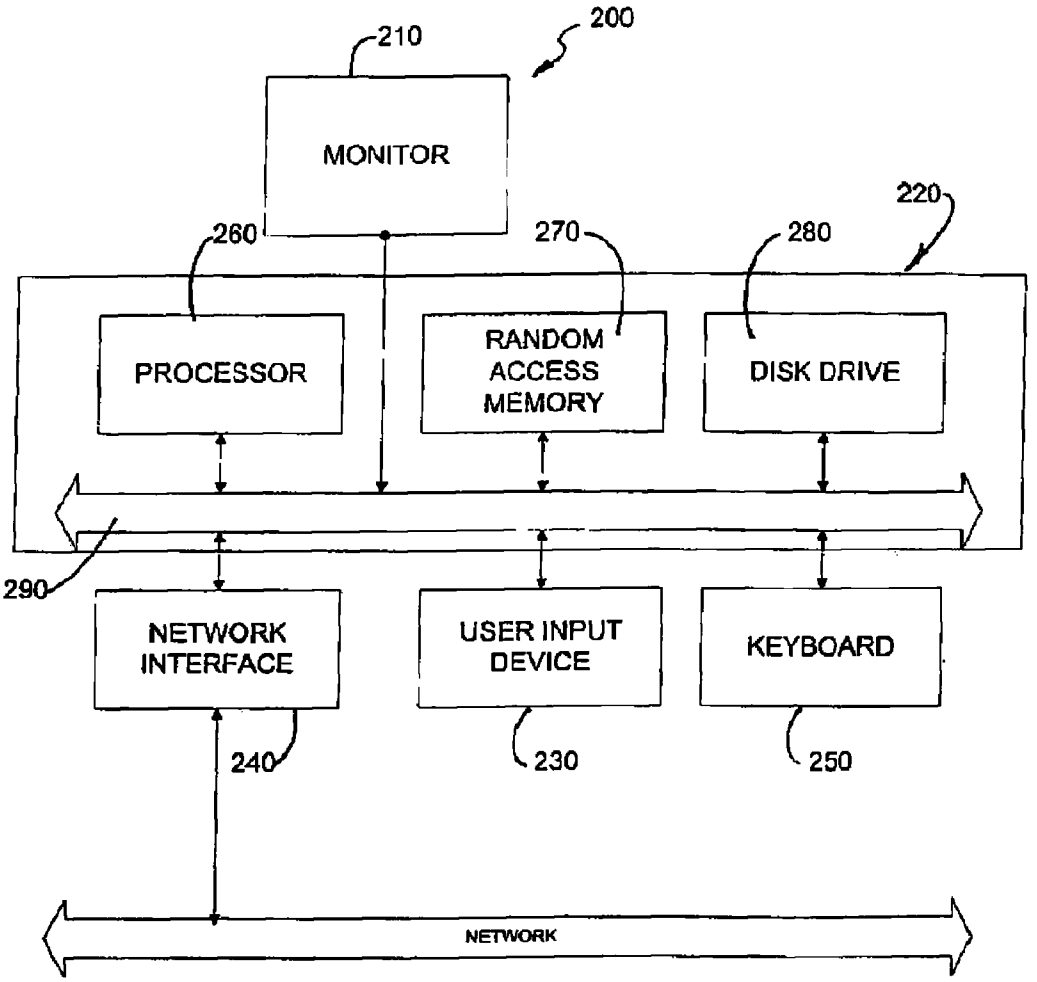
200
210
MONITOR
220
260
270
280
PROCESSOR
RANDOM ACCESS MEMORY
DISK DRIVE
290
NETWORK INTERFACE
USER INPUT DEVICE
KEYBOARD
240
230
250
NETWORK

FIG. 2

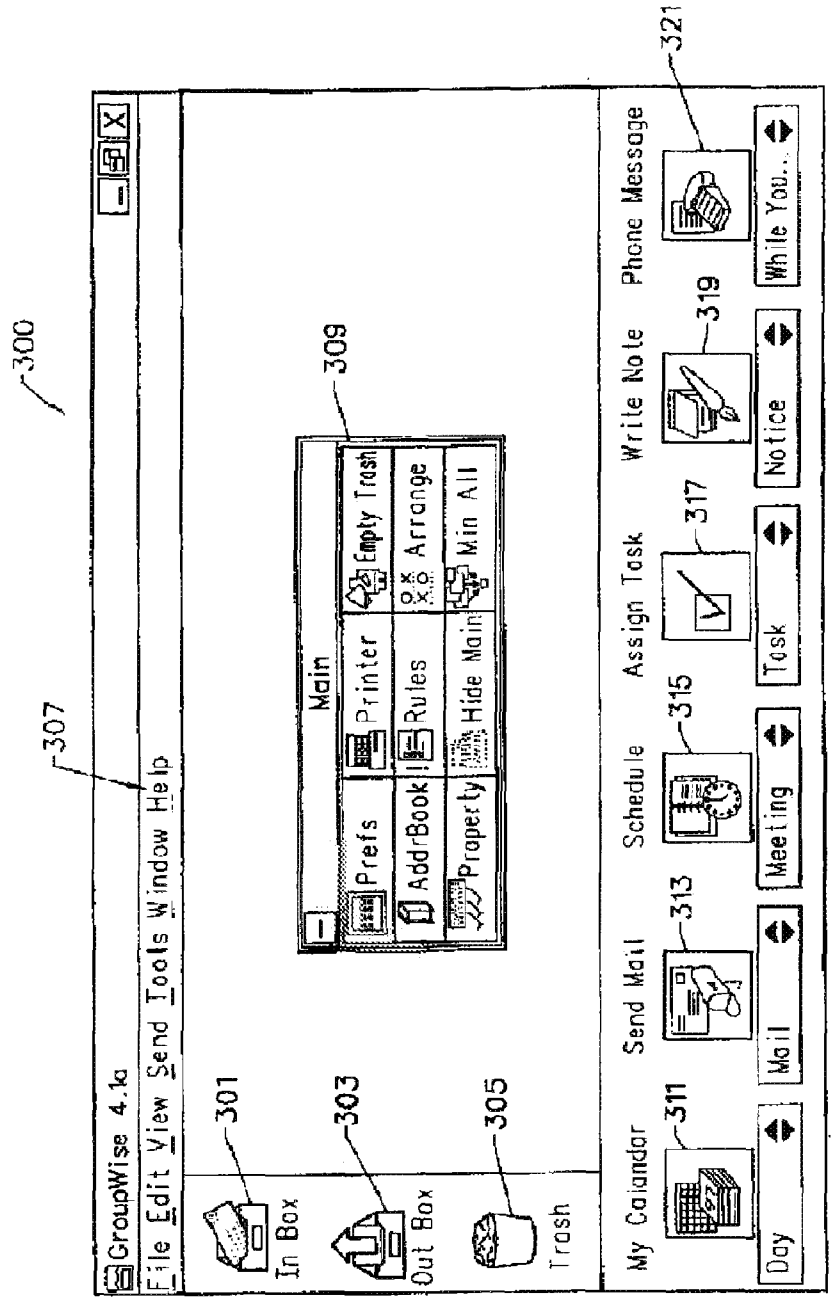
300
307
309
GroupWise 4.1a
File Edit View Send Tools Window Help
Main
Prefs
Printer
Empty Trash
AddrBook
Rules
Arrange
Property
Hide Main
Min All
In Box
Out Box
Trash
301
303
305
My Calendar
Send Mail
Schedule
Assign Task
Write Note
Phone Message
311
313
315
317
319
321
Day
Mail
Meeting
Task
Notice
While You...

FIG. 3

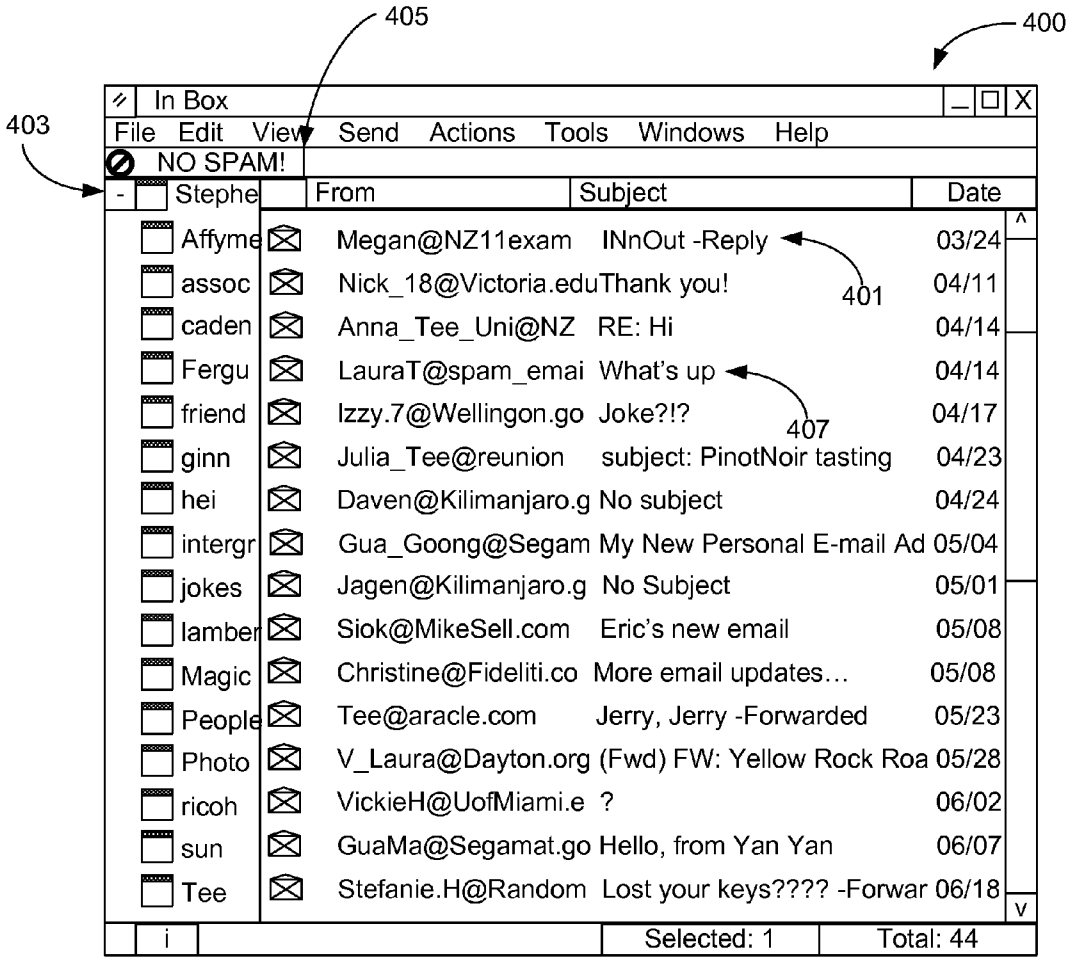
405
400
403
In Box
File Edit View Send Actions Tools Windows Help
NO SPAM!
Stephe
From
Subject
Date
Affyme Megan@NZ11exam INnOut -Reply 03/24
assoc Nick_18@Victoria.edu Thank you! 04/11
caden Anna_Tee_Uni@NZ RE: Hi 04/14
Fergu LauraT@spam_emai What's up 04/14
friend Izzy.7@Wellingon.go Joke?!? 04/17
ginn Julia_Tee@reunion subject: PinotNoir tasting 04/23
hei Daven@Kilimanjaro.g No subject 04/24
intergr Gua_Goong@Segam My New Personal E-mail Ad 05/04
jokes Jagen@Kilimanjaro.g No Subject 05/01
lamber Siok@MikeSell.com Eric's new email 05/08
Magic Christine@Fideliti.co More email updates… 05/08
People Tee@aracle.com Jerry, Jerry -Forwarded 05/23
Photo V_Laura@Dayton.org (Fwd) FW: Yellow Rock Roa 05/28
ricoh VickieH@UofMiami.e ? 06/02
sun GuaMa@Segamat.go Hello, from Yan Yan 06/07
Tee Stefanie.H@Random Lost your keys???? -Forwar 06/18
401
407
i
Selected: 1
Total: 44

FIG. 4

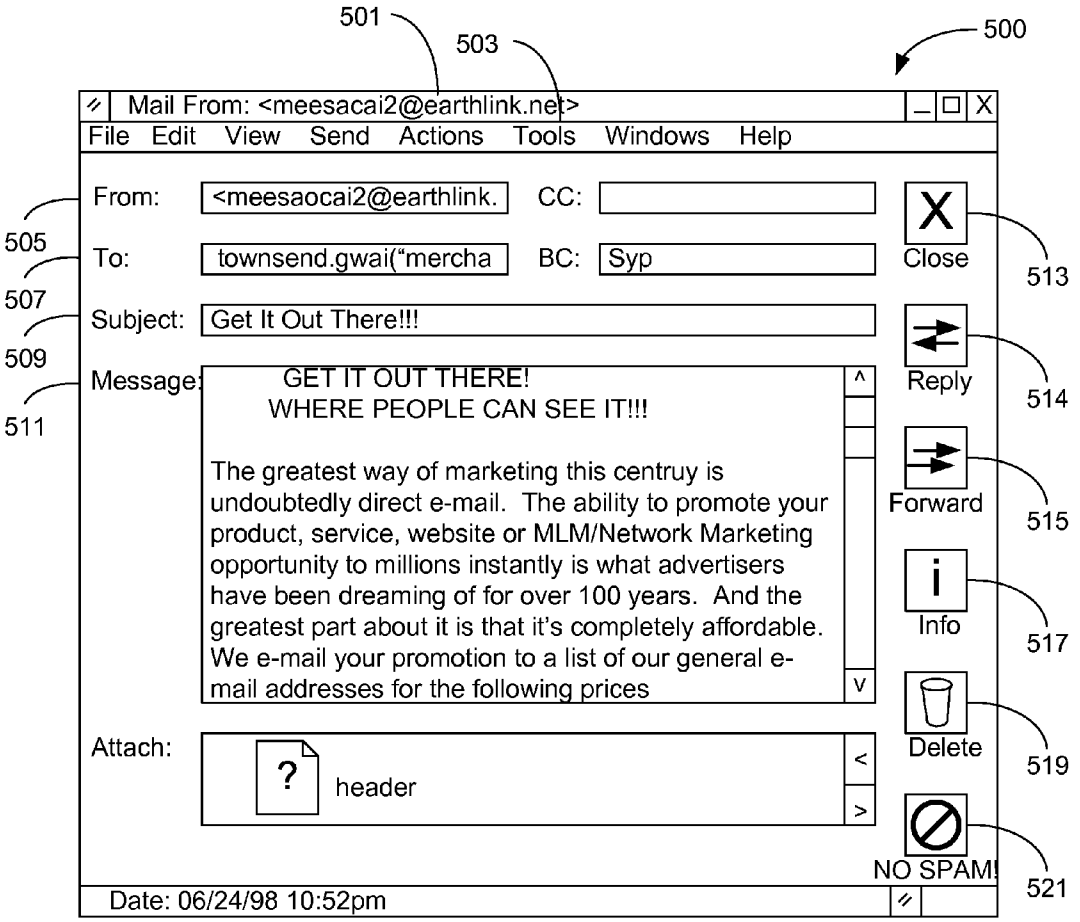
501
503
500
Mail From: <meesacai2@earthlink.net>
File Edit View Send Actions Tools Windows Help
From: <meesaocai2@earthlink.
CC:
To: townsend.gwai("mercha
BC: Syp
Subject: Get It Out There!!!
Message:
GET IT OUT THERE!
WHERE PEOPLE CAN SEE IT!!!
The greatest way of marketing this centruy is undoubtedly direct e-mail. The ability to promote your product, service, website or MLM/Network Marketing opportunity to millions instantly is what advertisers have been dreaming of for over 100 years. And the greatest part about it is that it's completely affordable. We e-mail your promotion to a list of our general e-mail addresses for the following prices
Attach:
header
Close
Reply
Forward
Info
Delete
NO SPAM!
Date: 06/24/98 10:52pm
505
507
509
511
513
514
515
517
519
521

FIG. 5

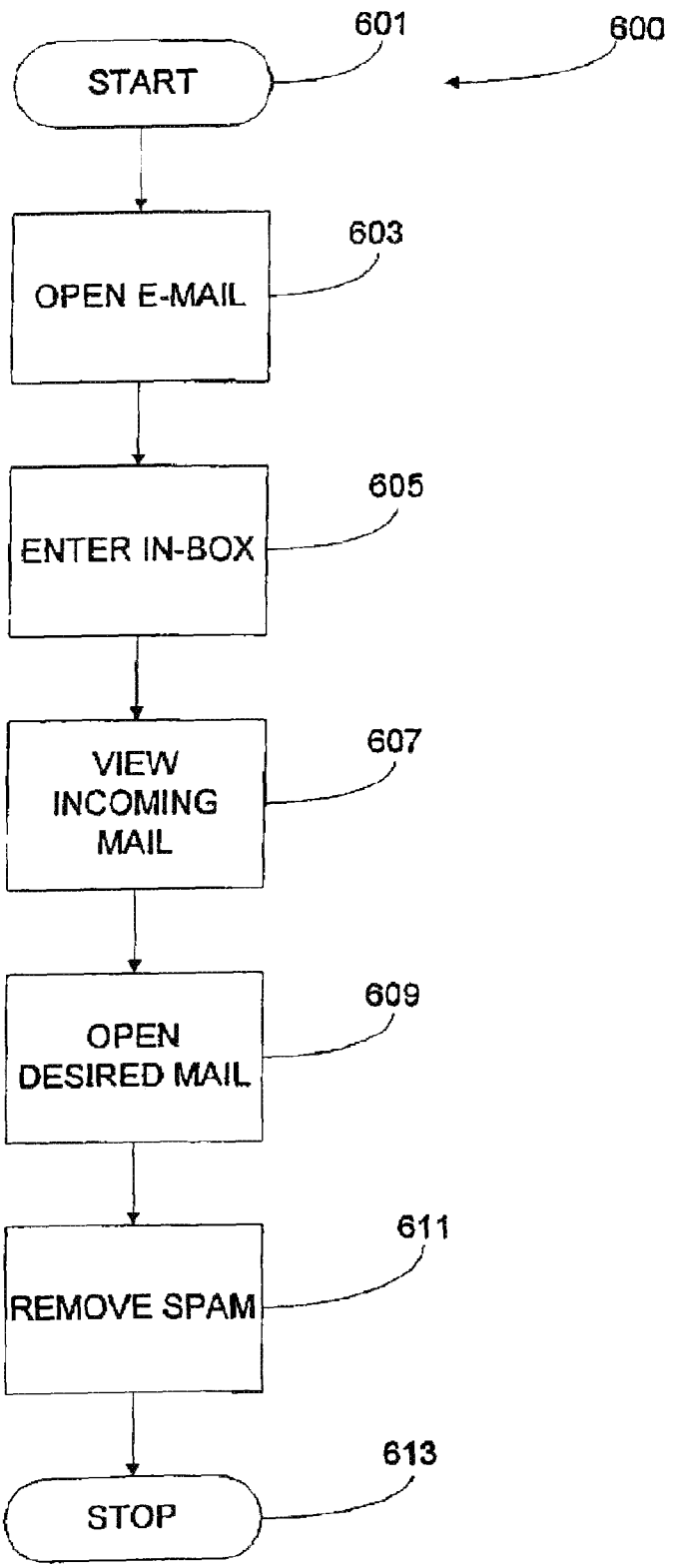
600
601
START
603
OPEN E-MAIL
605
ENTER IN-BOX
607
VIEW INCOMING MAIL
609
OPEN DESIRED MAIL
611
REMOVE SPAM
613
STOP

FIG. 6

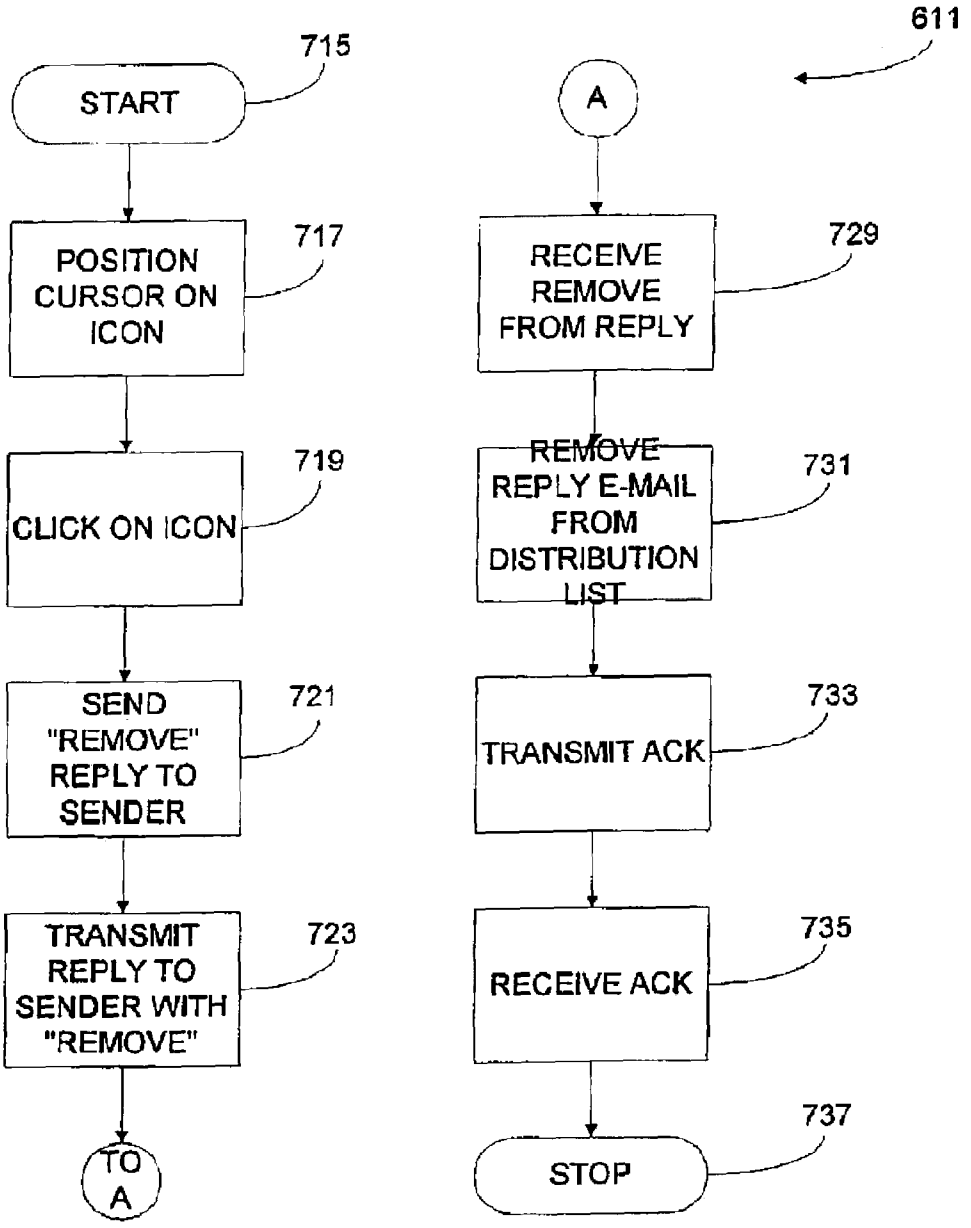
715
START
717
POSITION CURSOR ON ICON
719
CLICK ON ICON
721
SEND "REMOVE" REPLY TO SENDER
723
TRANSMIT REPLY TO SENDER WITH "REMOVE"
TO A
611
A
729
RECEIVE REMOVE FROM REPLY
731
REMOVE REPLY E-MAIL FROM DISTRIBUTION LIST
733
TRANSMIT ACK
735
RECEIVE ACK
737
STOP

FIG. 7

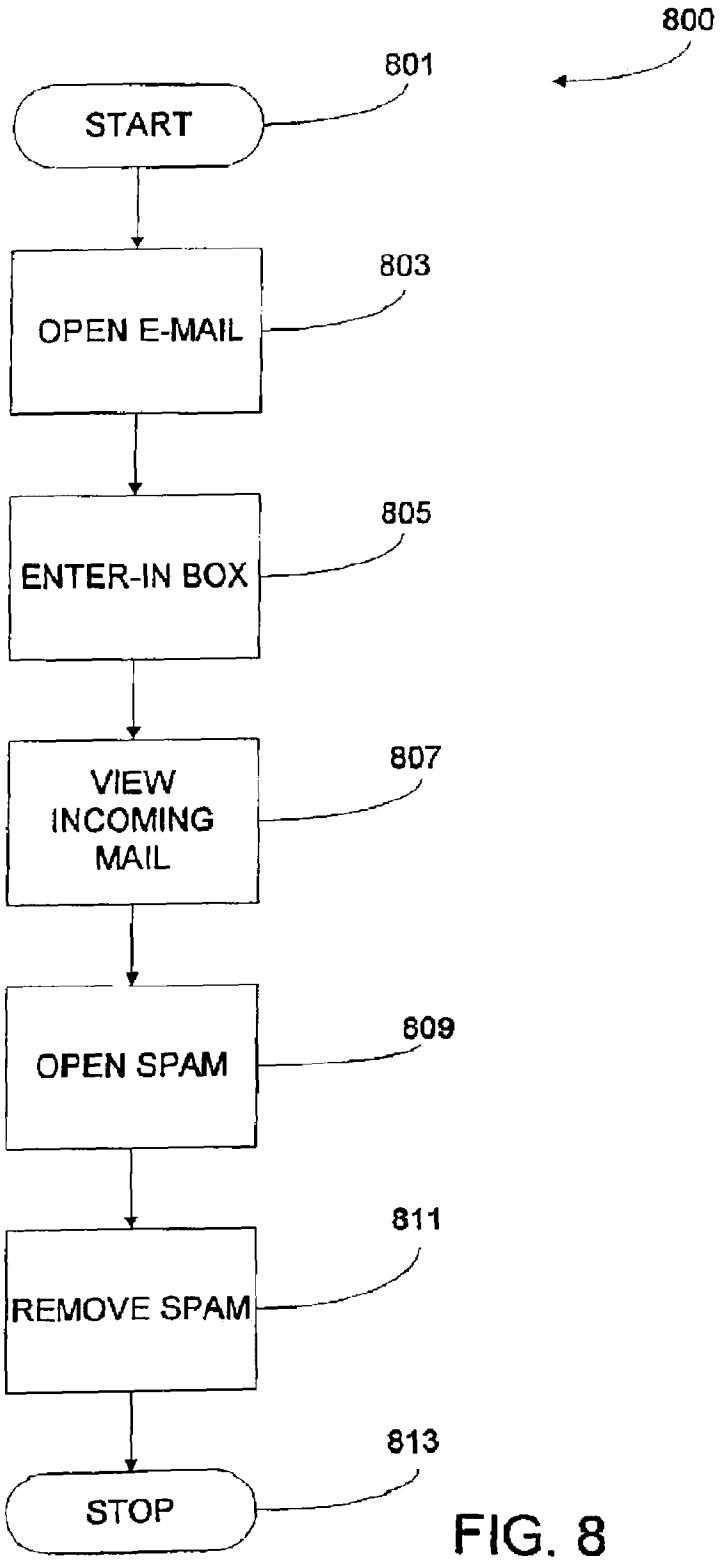
800
801
START
803
OPEN E-MAIL
805
ENTER-IN BOX
807
VIEW INCOMING MAIL
809
OPEN SPAM
811
REMOVE SPAM
813
STOP

FIG. 8

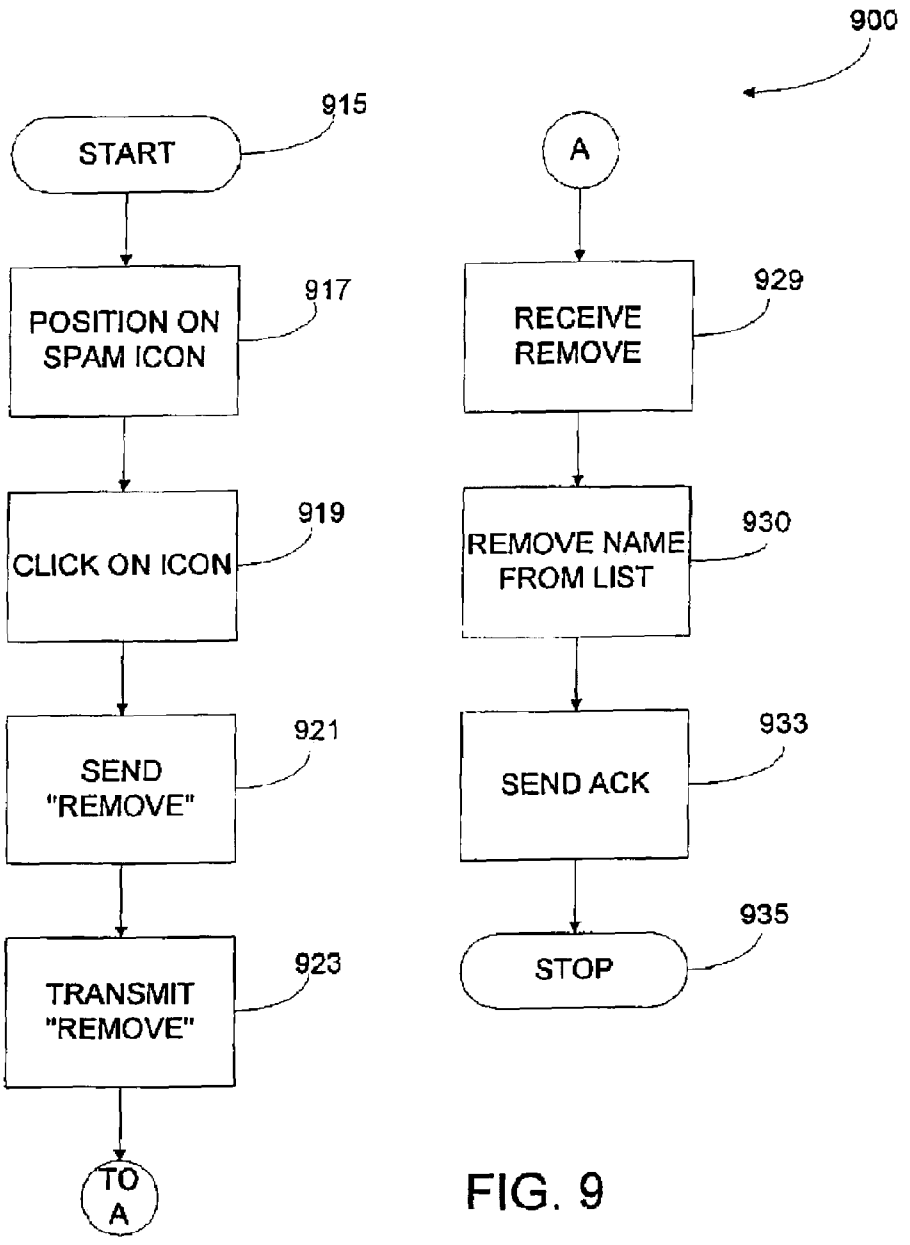
900
915
START
917
POSITION ON SPAM ICON
919
CLICK ON ICON
921
SEND "REMOVE"
923
TRANSMIT "REMOVE"
TO A
A
929
RECEIVE REMOVE
930
REMOVE NAME FROM LIST
933
SEND ACK
935
STOP

FIG. 9

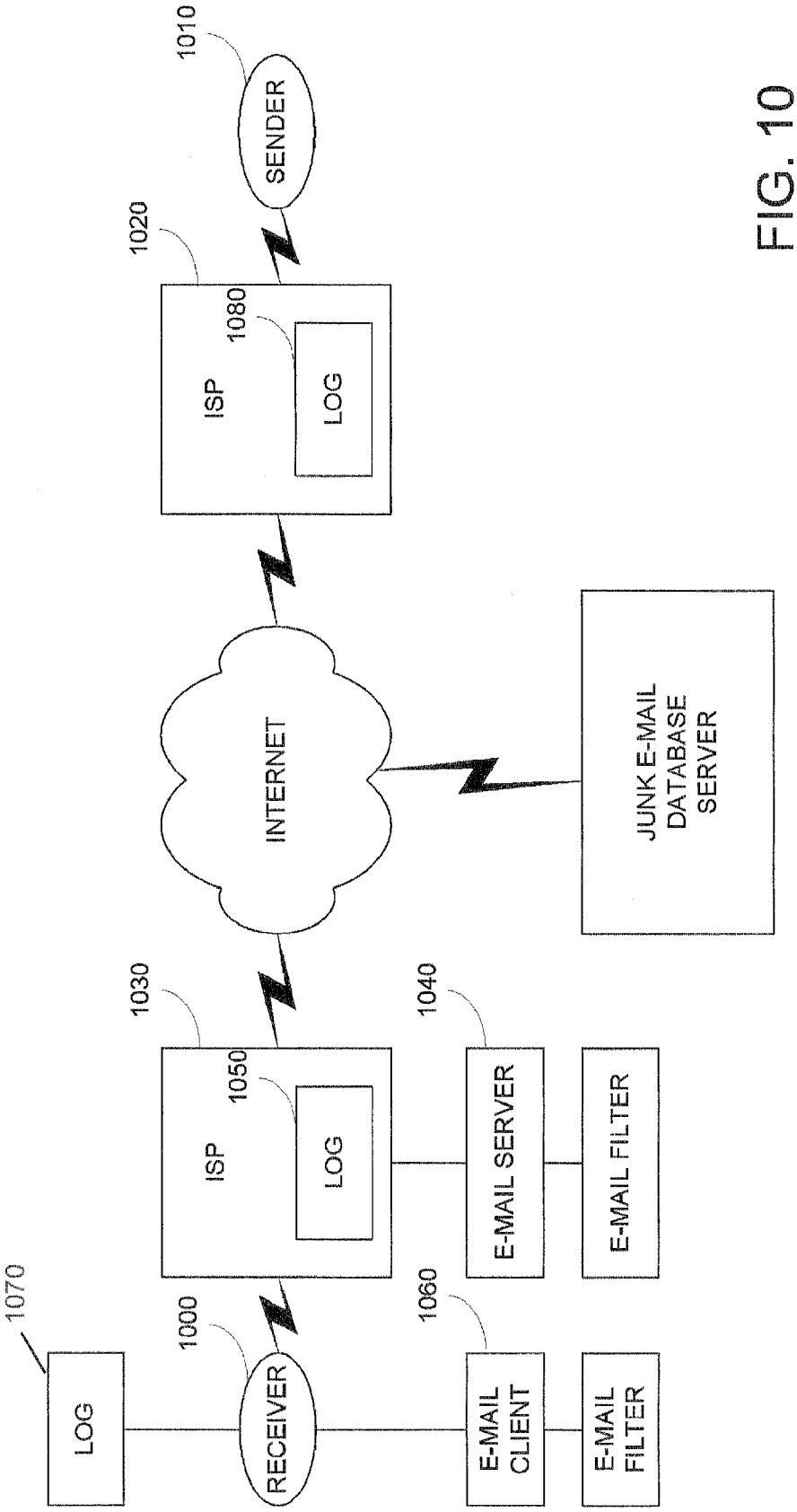
1010
SENDER
1020
ISP
1080
LOG
INTERNET
JUNK E-MAIL DATABASE SERVER
1030
ISP
1050
LOG
1040
E-MAIL SERVER
E-MAIL FILTER
1070
LOG
1000
RECEIVER
1060
E-MAIL CLIENT
E-MAIL FILTER

FIG. 10

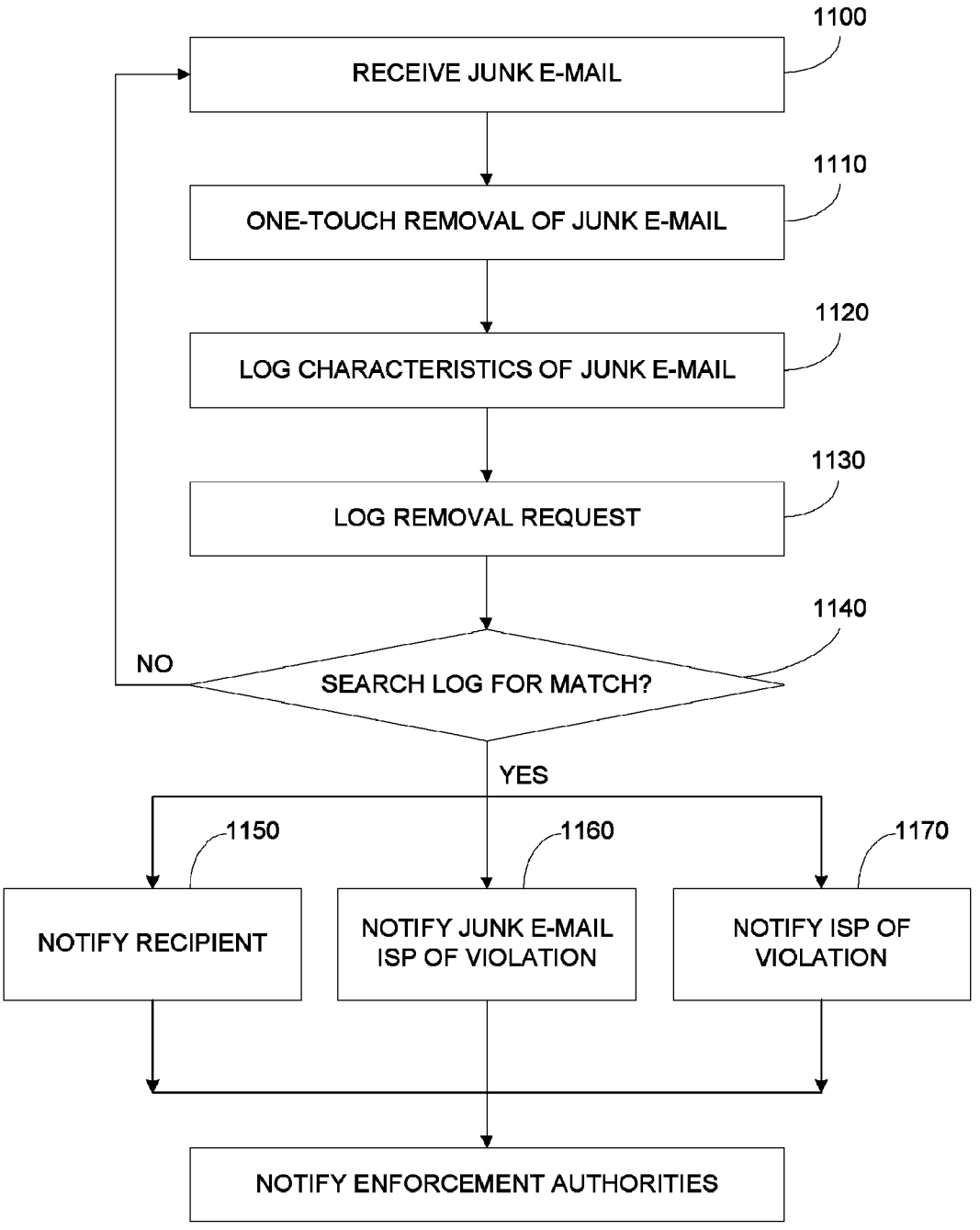
1100
RECEIVE JUNK E-MAIL
1110
ONE-TOUCH REMOVAL OF JUNK E-MAIL
1120
LOG CHARACTERISTICS OF JUNK E-MAIL
1130
LOG REMOVAL REQUEST
1140
SEARCH LOG FOR MATCH?
NO
YES
1150
NOTIFY RECIPIENT
1160
NOTIFY JUNK E-MAIL ISP OF VIOLATION
1170
NOTIFY ISP OF VIOLATION
NOTIFY ENFORCEMENT AUTHORITIES

FIG. 11

SYSTEM FOR POLICING JUNK E-MAIL MESSAGES

CROSS-REFERENCES TO RELATED APPLICATIONS

This application is a continuation of 11/862,195 filed Sep. 27, 2007 which is a continuation of U.S. application Ser. No 11/841,883 filed Aug. 20, 2007 which is a continuation of U.S. application Ser. No. 10/656,502 filed Sep. 4, 2003; and 11/862,195 is a divisional of U.S. application Ser. No. 10/656,502 filed Sep. 4, 2003 which is a continuation of U.S. application Ser. No. 09/353,537 filed Jul. 14, 1999 which claims priority to 60/093,120 filed Jul. 15, 1998, hereby incorporated for all purposes.

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BACKGROUND OF THE INVENTION

The present invention relates generally to telecommunication techniques. More particularly, the present invention provides a novel technique, including computer codes, to reduce unwanted e-mail messages from a personal computer, workstation, or the like. These unwanted e-mail messages that were unsolicited are commonly referred to as "SPAM." SPAM includes junk mail or junk e-mail messages including get-rich-quick schemes, advertisements, adult web site information, donation requests, political campaign information, and the like.

A variety of techniques have been used to transmit written messages from one geographic location to another. In the early days, people or messengers were the sole means used to carry written information from one person to another person. Although effective and still used today, messengers were limited by their physical abilities. That is, some messengers could not travel over rough terrain such as rocks, jungles, and other landscapes. Large bodies of water were also difficult to cross. Additionally, messengers generally could not travel over long distances in a short period of time A human messenger could only travel a few miles or tens of miles during a typical day.

Accordingly, messengers were replaced, at least in part, by carrier pigeons. More particularly, carrier pigeons were used to move small pieces of papers having written information thereon from one geographic location to another. Carrier pigeons were quite efficient in some applications but could not generally travel over substantial distances. Accordingly, a relay of ponies and human riders was used for long distance travel across the North American continent. This relay of ponies was called the "Pony Express." The Pony Express carried written communication in the form of mail on leather pouches carried on the relay of ponies across the United States. Although all of these techniques were somewhat effective, they were often costly, unreliable, and difficult to achieve.

In the modern day world, a combination of transportation techniques are used in the postal system. These techniques include, among others, human carriers (e.g., mailmen), motorized vehicles such as cars or trucks, and airplanes, jets, and the like to physically transport mail throughout the United States. Conventional postal systems are often reliable and cost efficient. They are so efficient that they are often subject to many undesirable influences. One of these influences is the routine transmission of unsolicited advertisements, information, and the like to many households across the United States. On any typical day, an average household receives at least one, if not more than one, unsolicited advertisement. As merely an example, the advertisement can be for carpet cleaning, credit cards, and other goods or services that are routinely sent by companies in an attempt to secure a purchase from the household. In many cases, these unsolicited advertisements often burden the postal system, although the advertisers at least pay for the service. Additionally, households are burdened by the advertisements, which are thrown away. These unsolicited advertisements are also termed as "Junk Mail."

Unfortunately, junk mail is not limited to use in only the conventional postal systems. In many wide area computer networking applications, junk mail is commonly sent to users in large groups, often thousands or perhaps millions of users. For instance, a user of a well known wide area network of computers, which is known as the "Internet," often receives numerous lines of junk mail, which has been coined as SPAM! In fact, SPAM refers to such unsolicited advertisements that come to the user by way of electronic mail, also known as "e-mail." The senders of SPAM are often termed "spammers". Unlike regular mail advertisers, spammers do not pay for the privilege to send SPAM to recipients e-mail boxes.

SPAM has become a significant problem because the volume of SPAM is large. As a courtesy, and under the threat of possible legislation restricting SPAM, many distributors of SPAM now send SPAM with instructions to the recipients of the SPAM on how to be removed from the SPAM distribution list. In most cases, however, e-mail messages often do not include such instructions on how to remove a recipient from a junk e-mail distribution list.

In the cases where instructions are provided, many drawbacks exist. As merely an example, some of the ways to be removed from the mailing lists is time consuming to the recipient. Additionally, there are simply no standards on how recipients may be removed from such mailing lists. Furthermore, the techniques that are available to the recipient often require the recipient to perform time consuming tasks, such as sending a reply e-mail to the junk e-mail message and specifically typing a request to be removed from the mailing list, forwarding the e-mail message to another e-mail address and typing a request with specified text requesting removal, connecting to a particular web site and following instructions for removal (incidentally, benefiting the SPAM web site by providing an advertising "hit" for the web site), and the like.

Filters have also been used or proposed to remove junk e-mail messages from a recipients e-mail. In fact, various programs have been developed in an attempt to filter-out junk e-mail messages from in boxes. Such programs appear to focus upon the email address, host source, the format of the message, the content, and the like. Typically such programs are programmed by the user to detect junk e-mail, and to automatically delete them so the user is not bothered by them, or automatically put into a junk folder. A drawback to such programs is that the user is forced to determine the criteria for filtering, a complicated task for the average user. Another drawback to such programs is that the filters defined by the user, or pre-set may filter-out legitimate bulk e-mail messages that are of interest to the user, for example, e-mail messages

from special interest groups, product recall and product warning notices, valuable product promotions from legitimate businesses, complementary upgrade notices and bug patches for software programs, freebees, and the like.

One company developing products to enhance the use of filtering techniques has been Bright Light Technologies in San Francisco. The Bright Light system appears to disclose providing a central clearing house of identified SPAM messages. Bright Light appears to use the SPAM data to form data files which are downloaded to Bright Light subscribers. The subscribers utilize the data files to create filters within their e-mail programs that then filter-out SPAM messages.

Bright Light appears to gather SPAM data by setting up dummy or "probe" e-mail accounts with e-mail providers, for example, Juno.com, Excite.com, or the like. When these dummy accounts receive e-mail messages, Bright Light appear to automatically or manually determine whether the e-mail is SPAM. If the e-mail message is determined to be SPAM, characteristics of the e-mail message, such as sender and the subject text appear to be entered into the SPAM data file.

One drawback with the current Bright Light technique is that automatic determination of SPAM may require a high level of AI programming and programming resources. Another drawback is that manual determination of SPAM may require round-the clock hiring of personnel and personnel resources.

Yet another drawback with the current Bright Light technique is that use of such dummy or probe e-mail accounts are passive do not receive SPAM as would active e-mail accounts. It is well known that electronic mass marketers use a variety of techniques for obtaining e-mail address lists than just who has an e-mail account. For example, marketers obtain e-mail address from user posts on various Internet sites such as news group sites, chat room sites, or directory services sites, message board sites, mailing lists, and identifying "mailto" address links provided on web pages. Using these and other similar methods, electronic mass marketers may effectively obtain large numbers of mailing addresses, which become targets for their advertisements and other unsolicited messages. Mere passive accounts would thus not have the same exposure to such mass marketers, as would e-mail accounts of real live web users. As a result, a reduced number of SPAM e-mail messages may be sent to such dummy or probe accounts.

From the above, it is seen that an improved technique for removing and preventing repeat junk e-mail messages is highly desired.

SUMMARY OF THE INVENTION

According to the present invention, a technique for removing junk e-mail messages from a system of computers over a wide area network is provided. In an exemplary embodiment, the present invention provides a technique for easily viewing and removing SPAM without opening it. The technique can permanently remove the SPAM in some embodiments. The technique also provides for enforcement and reporting of SPAM to SPAM policing servers.

In a specific embodiment, the present invention provides a system for policing an unsolicited e-mail communication. The system has a plurality of clients, each coupled together using a wide area network of computers, such as the Internet or an interne. Each of the clients is adapted to send an indication of an unsolicited e-mail message (or forward the e-mail message) through an e-mail device for a display. The system also has a policing server coupled to each of the plurality of clients through the wide area network of computers. The policing server is adapted to receive the indication from at least one of the clients. The e-mail device comprises a SPAM icon on the display. The SPAM icon is adapted to send the indication from the client to the policing server.

Numerous advantages are achieved by way of the present invention over conventional techniques. As merely an example, the present invention provides an easy to use method to remove unwanted or unsolicited e-mail messages. In some embodiments, the present invention is relatively easy to implement using pre-existing computer software. The present invention also is time efficient and relatively cost efficient. The computer codes also allows a user to permanently remove unwanted e-mail messages from a distribution list. Depending upon the embodiment, one or more of the advantages are achieved. These and other advantages are described throughout the present specification, and more particularly below.

These and other embodiments of the present invention, as well as its advantages and features are described in more detail in conjunction with the text below and attached

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a simplified block diagram of an e-mail system according to an embodiment of the present invention;

FIG. **2** is a simplified block diagram of a display according to an embodiment of the present invention;

FIG. **3-5** are simplified user interfaces according to embodiments of the present invention;

FIGS. **6-9** are simplified flow diagrams according to embodiments of the present invention; and

FIGS. **10-11** are simplified diagrams according to other embodiments of the present invention.

DESCRIPTION OF THE SPECIFIC EMBODIMENTS

I. System Hardware

FIG. **1** is a simplified block diagram of an e-mail system **100** according to an embodiment of the present invention. This diagram is merely an illustration and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize other variations, modifications, and alternatives. Among other features, the system **100** is a wide area network of computers such as, for example, the Internet. The network of computers includes workstations or computer terminals **103**, which can be IBM compatible personal computers (i.e., PCs), workstations, network computers (i.e., NCs), remote computing devices, television sets, set-top boxes or other computer-like devices. These computers are coupled through lines **105** to the Internet **101**, which includes a variety of servers and other computers. As merely an example, one of the servers is shown as server **107**.

Server **107** can be any suitable server that distributes unsolicited advertisements such as junk mail. Server **107** is coupled to the Internet through line **109**, which can be through an Internet service provider, which is commonly known as an ISP. Server **107** often includes sufficient memory to store information such as advertisements and the like. The memory can also store an e-mail distribution list. The memory can be based on a hard drive, a floppy drive, tape, or other storage media. Of course, the type of memory used depends upon the application.

The e-mail distribution list can include e-mail addresses to one of a plurality of computers **103**A, **103**B, **103**C, and **103**D, which can correspond to users. The e-mail distribution list is

often compiled from other e-mail distribution lists that are often accumulated from other servers or even purchased. The e-mail distribution list can also be formed by adding the e-mail addresses of users of selected sites. E-mail distribution lists can often range in hundreds, thousands, or even millions of users. As merely an example, a typical e-mail distribution list is often about thousands or even millions of e-mail names and greater. Of course, the type of e-mail distribution list depends upon the application.

Each of these computers can be at a user site such as a home, corporate address, or remote location. Periodically, each of these computers receives an unsolicited e-mail message such as an advertisement from server **107** or a plurality of servers. Literally hundreds, thousands, or even millions of unsolicited e-mail messages can be sent to one or more of the computers by way of the Internet from one or more servers. Given the efficiency of the e-mail system of the Internet, the user of the computer can receive many e-mail messages from a large number of servers. These servers can send desirable advertisements as well as many undesirable advertisements. As merely an example, the advertisement can be for a car, a book, or other consumer products. Additionally, the advertisement can be for "sensitive material" such as an adult Web Site or other materials. The present invention provides a technique to remove these unwanted e-mail messages in an efficient way. Before discussing details of the present invention, details of a computer according to the present invention are shown by way of FIG. **2** below.

FIG. **2** is a simplified block diagram of a system **200**, according to an embodiment of the present invention. This diagram is merely an illustration and should not limit the scope of the claims herein. The system **200** includes a monitor **210**, a computing system **220**, a user input device **230**, a network interface **240**, and a keyboard **250**. Computing system **220** preferably includes familiar components such as a processor **260**, and memory storage devices, such as a random access memory (RAM) **270**, a fixed disk drive **280**, and a system bus **290** interconnecting the above components. User input device **230** may include a mouse, a trackball, a keyboard, a keypad, a joystick, a digitizing tablet, a wireless controller, a microphone, or other input devices.

RAM **270** and fixed disk drive **280** are mere examples of tangible media for storage of computer programs, e-mail messages, audio and/or video data, and code implementing embodiments of the present invention. Other types of tangible media include SRAM, floppy disks, optical storage media such as CD-ROMs and bar codes, semiconductor memories such as flash memories, stick memories read-only-memories (ROMs), ASICs, battery-backed volatile memories, and the like.

Network interface **240** may be any type of interface to a computer network. For example network interface **240** may be a cable/DSL/telephone modem, an Ethernet or fast Ethernet interface, a LocalTalk connection, or the like. As disclosed above, the computer network may be any type of network such as the Internet, an Intranet, an IPX network, private tunnel, local area network (LAN), WAN, and the like.

In a preferred embodiment, computing system **220** includes a microprocessor, such as a PentiumIII from Intel Corporation, a K-7 processor from Advanced Microdevices, or the like running Windows98™ operating system from Microsoft Corporation of Redmond, Wash., BeOS, LINUX, or the like.

The embodiment may include an electronic mail (e-mail) client application, such as Netscape Messenger, GroupWise, Eudora, Microsoft Outlook, Pegasus Mail, or another typical e-mail program for reading and managing e-mail. The embodiment may also utilize web-based e-mail providers, such as Hotmail, Yahoo!, Excite, or the like; subscriber-based e-mail providers, such as America On Line (AOL), Compuserve, Prodigy, Microsoft Network (MSN) or the like. Still other embodiments may run with existing e-mail filtering software, such as Spam Wall from Bright Light, and the like.

Many other systems, such as MacOS™ from Apple Corporation, running upon G3 based microprocessors, or Solaris™ from Sun Microsystems or UNIX running upon a SPARCstation, and the like can also be used.

The system above discloses examples of configurations that embody the present invention. It will be readily apparent to one of ordinary skill in the art that many system types, configurations, and combinations of the above devices are suitable for use in light of the present disclosure. Of course, the types of system elements used depend highly upon the application.

In one embodiment of the present invention, a text parsing routine can be implemented and included. In such an embodiment, the text parsing routine automatically parses the junk e-mail message and determines the specified method for removal from the mailing list. For example, the text parsing routine can determine that a junk e-mail message should be "replied to" with the text "remove", "unsubscribe", or the like in the subject line, in the body of the e-mail message, and the like. As another example, the text parsing routine can determine that a junk e-mail message should be forwarded to a specified e-mail address, again with special text such as "delete", "please remove", and the like included therein. As merely another example, the routine can determine that a specific web site should be contacted using a web browser and specific acts performed such as clicking on a button on the web site. Other types of actions are contemplated in alternative embodiments of the present invention and can depend upon the type of removal instructions specified by the junk e-mail message.

In one embodiment, as will be described below, when the user clicks upon the SPAM icon, the junk e-mail message is not only replied to using the user's e-mail program, but is also deleted or purged from the user's in box. The e-mail message may also be forwarded to a centralized clearing house of SPAM messages, called a SPAM policing server or policing server. Thus with a single click of the remove icon, a request for removal from the e-mail mailing list is generated and the message is deleted. In some embodiments, the e-mail message is transferred to trash.

In another embodiment, when a junk e-mail has been removed by selecting the SPAM command or by clicking on the SPAM icon, a log is maintained of the incoming junk e-mail message, the source of the junk e-mail message, the product advertised in the e-mail message, or the like. Further, a log is maintained as to when the reply e-mail, to whom the reply e-mail is sent to, actions taken, or the like. Such logs are valuable as to tracking junk e-mails and to demonstrate whether the requests for removal have been respected. If a junk e-mail source repeatedly ignores removal requests, the logs may provide grounds for ISPs to terminate junk e-mail sender's accounts, may provide evidence to governmental authorities, and the like. In still another embodiment, the logs may be forwarded to the policing server for further action.

In light of the disclosed embodiments, enhancements to the present invention are envisioned. For example, it is envisioned that users will be able to define custom actions and assign such actions to custom icons for display on the e-mail system. Some examples of custom user interfaces are shown below.

II. User Interfaces

FIG. **3-5** are simplified user interfaces according to embodiments of the present invention. These diagrams are merely illustrations and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize other variations, modifications, and alternatives. As merely an example, FIG. **3** shows a graphical user interface **300** for an e-mail system according to an embodiment of the present invention. The graphical user interface **300** is one of many, if not the first, window for the e-mail system. The user interface includes a variety of features such as a tool bar **307** that has at least features directed to File, Edit, View, Send, Tools, Window, and Help prompts.

Additionally, the interface includes an in-box **301**, an out-box **303**, and a trash can **305**. As shown, the in-box, out-box, and trash can be accessed by way of a mouse cursor positioned over a respective icon which allows entry. The e-mail also has a main menu **309**, and a lower group of icons for accessing a calendar **311**, a send mail program **313**, a schedule program **315**, a task program **317**, a note program **319**, and a phone message program **321**. Details of these particular features can be found in one of many conventional e-mail systems such as, for example, GroupWise by Novell as well as other e-mail systems.

The present invention allows for easy viewing and removal of junk e-mail messages or SPAM by first entering the in-box **301**. The in-box is entered by clicking a cursor by way of a mouse onto the in-box icon. Once the in-box is accessed, a graphical user interface such as the one **400** shown in FIG. **4** is displayed. The in-box user interface includes a variety of elements such as a root directory **403**, which is in the name of "Stephen" for example. The root directory includes a variety of sub-directories such as "friend" for example. As shown, the friend directory is highlighted by way of an outline. The friend directory is also open, as shown by the opened file folder. The friend directory receives a variety of e-mail messages which are sent to the main directory or directly to the friend directory. As shown, the e-mail messages come from "real" friends of the user or receiver such as the names listed, including Rosa S. Kim, Diane H. Elzingre, and others. Additionally, the friend directory includes junk mail, non-solicited mail, or SPAM, as shown by the line item corresponding to "What's up" **407**, which is from Tridoc2020@aol.com. The SPAM has not been opened but can be easily identified by the user or recipient by the unknown e-mail name and message.

In the present embodiment, the user can remove the SPAM by simply clicking on the "NO SPAM!" icon **405**, which is disposed around the periphery of the graphical user interface. The periphery of the graphical user space is outside of the region for the main text or body of the e-mail message. In some embodiments, the periphery of the graphical user interface is a portion of a tool bar, for example, which is easy to access but substantially out of the way of the text. In still another embodiment, the user may have the option to select a "NO SPAM" function by right-clicking upon the e-mail message. Here, the icon is displayed simultaneously with the many lines of e-mail messages, including titles and senders. The NO SPAM button removes the e-mail message or disposes the e-mail message into the trash.

In the present embodiment, the NO SPAM button also sends a reply to the sender, which is Tridoc2020@aol.com. The reply sends a message such as a "remove" term or similar term or terms which indicates that the receiver of the SPAM or Stephen in the present example would like to be removed from the spammer's distribution list. Other forms of requests are envisioned such as entering "remove" or similar term on a subject line, or in a body of an e-mail message, or the like. In this embodiment, an e-mail message may also be sent to a SPAM policing server to indicate the receipt of a SPAM by the recipient.

By way of the present user interface, the SPAM is removed without even opening it. The present user interface is easy to use, by way of a simple position and click, and permanently removes the receivers name from the SPAM distribution list. Accordingly, the receiver will not receive SPAM from the SPAM mailing list of Tridoc2020@aol.com, as long as the user's name is permanently removed from the distribution list.

In an alternative embodiment, the receiver of SPAM reads the SPAM message before removing it by way of a novel graphical user interface **500** or window shown in FIG. **5**. This graphical user interface includes a variety of features such as a tool bar **503**, sender field **505**, receiver field **507**, subject line **509**, and e-mail message **511**, which is SPAM. The interface also includes icons for closing the window **513**, replying to the sender **514**, forwarding the e-mail **515**, information **517**, deleting the e-mail **519**, and others. The interface also includes an icon labeled "NO SPAM!" for permanently removing the SPAM.

The NO SPAM! button removes the e-mail message or disposes the e-mail message into the trash. The NO SPAM! button also sends a reply to the sender, which is meesaocai2@earthlink.net **501**. The reply may send a message such as a remove term which indicates that the receiver of the SPAM or Stephen would like to be removed from the spammer's distribution list using meesaocai2@earthlink.net. In this embodiment, an e-mail message may also be sent to a SPAM policing server to indicate the receipt of a SPAM by the recipient.

By way of the present user interface, the SPAM is removed after opening it. The present user interface is easy to use, by way of a simple position and click, and permanently removes the receivers name from the SPAM distribution list. In another embodiment, the user may have the option to select a "NO SPAM" function by right-clicking upon the e-mail message. Accordingly, the receiver will not receive SPAM from the SPAM mailing list of meesaocai2@earthlink.net **501**, if the spammer permanently removes the receives name from the distribution list, and if the SPAM police server updates its filter data files.

Although the above embodiments are shown by way of specific user interfaces, the present invention is much broader. In particular, the present invention can be applied to other e-mail systems and other types of interfaces. The invention can also be added to pre-existing systems without significant limitations or the like. The invention is shown, in part, by the SPAM! icon, but is not limited. The present invention merely provides an easy to use technique for removing SPAM, removing the user's name of a spammer's e-mail distribution list, and for reporting the SPAM to a SPAM policing server. Details with regard to specific methods according to embodiments of the present invention are shown below.

III. Present Methods

FIGS. **6-9** are simplified flow diagrams according to embodiments of the present invention. These diagrams are merely illustrations and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize other variations, modifications, and alternatives.

In one embodiment, the process **600** begins with start **601**, as shown in FIG. **6**. Among other processes, a user of the computer may perform a variety of operations. These operations include word processing, spread sheets, and others. The user also checks his/her e-mail box (step **603**). In the present

embodiment, this may include running an e-mail client program, accessing a web-based e-mail page, opening a subscription e-mail account, or the like.

Next, the user selects one of many functions that are available on e-mail. In some embodiments, the e-mail has an in-box and an out-box. In a preferred embodiment, the user opens or enters the in-box, step **605**. In particular, the user positions a cursor over an icon and clicks on the icon. The icon opens the in-box. Alternatively, the user uses a "hot key" to open the in-box. Other techniques can also be used to open the in-box.

Once the in-box is opened. The user typically views the pending e-mails by sender and subject. In most embodiments, the user views (step **607**) lines of e-mails that have been sent to the user e-mail address. The lines of e-mail contain both legitimate e-mail messages from friends, family, and business. Other e-mail messages include unsolicited advertisements, junk mail, and the like, which are referred herein as SPAM. The user opens desired e-mail messages (step **609**) and disposes of them. For example, the user can delete the e-mail messages, archive the messages, forward the messages, reply to the messages, or perform other functions.

Further, based upon the subject and/or the sender, the user may determine that the e-mail message is SPAM, and "remove" the SPAM (step **611**) before even opening it. In a specific embodiment, the SPAM is removed. Depending upon the embodiment, the SPAM can be removed by way of a variety of ways, as will be described below. The process ends at step **613**, which is STOP.

In a specific embodiment, the present invention provides a process for removing SPAM, as shown by the flow diagram **611** of FIG. **7**. After the user selects the SPAM, the user positions a cursor in front of an icon **717**, which can be a NO SPAM, SPAM, remove icon or the like such as the ones shown above. The user then clicks the icon (step **719**), which begins a process to remove the SPAM from the user's in-box, removes the user's name from an e-mail distribution list, reports the SPAM to a SPAM policing server, as well as other functions. In particular, the process generates (step **721**) an e-mail reply to the spammer or distributor of the e-mail with a remove request. The e-mail reply is transmitted (step **723**) to the sender via the wide area network of computers or Internet. By way of the present process, the user can click onto an icon to remove the SPAM, send a remove reply to the sender to permanently remove the name of the user from a junk mail e-mail distribution list, and report the SPAM.

Once the spammer or sender receives the remove reply message (step **729**) via the wide area network of computers or Internet. The sender generally receives such remove reply via e-mail message or other technique. The sender then removes (step **731**) the name of the user or recipient from the e-mail distribution list or the like from memory in a server, for example. This occurs manually or automatically according to a specific process.

In this embodiment, once the user name is removed, an acknowledgment message (step **733**) can be sent to the user by way of e-mail. The e-mail message traverses through the wide area network of computers or Internet and ends up in the users e-mail box. Here, the user receives (step **735**) the acknowledgment which can be a "ACKNOWLEDGE REMOVE" language or other information. The present process then stops, step **737**.

An alternative embodiment is shown by FIG. **8**. The process begins with start **801**, as shown in FIG. **8**. Among other processes, a user of the computer may perform a variety of operations. These operations include word processing, spread sheets, and others. The user also checks his/her e-mail (step **803**). In the present embodiment, this may include running an e-mail client program, accessing a web-based e-mail page, opening a subscription e-mail account, or the like.

In the present embodiment, the user selects one of many functions that are available on e-mail. In some embodiments, the e-mail has an in-box and an out-box. In a preferred embodiment, the user opens or enters the in-box, step **805**. In particular, the user positions a cursor over an icon and clicks on the icon. The icon opens the in-box. Alternatively, the user uses a "hot key" to open the in-box. Other techniques can also be used to open the in-box.

Once the in-box is opened. The user typically views the pending e-mails. In most embodiments, the user views (step **807**) lines of e-mails that have been sent to the user e-mail address. The lines of e-mail contain both legitimate e-mail messages from friends, family, and business. Other e-mail messages include unsolicited advertisements, junk mail, and the like, which are called SPAM. The user opens desired e-mail messages and disposes of them. For example, the user can delete the desired e-mail messages, archive the messages, forward the messages, reply to the messages, or perform other functions. In a preferred embodiment, the user also opens the SPAM e-mail message (step **809**).

Here, the user can read the SPAM and determine if it is desirable to keep the SPAM or permanently remove it. In a typical household, the user finds that the SPAM is an adult Web Site, a get-rich-quick scheme, or the like. Next, the user, or recipient "removes" the SPAM (step **811**). Depending upon the embodiment, the SPAM can be removed by way of a variety of ways. The process ends at step **813**, which is STOP. Processing by the SPAM policing server will be described below.

In a specific embodiment, the present invention provides a process for removing SPAM, as shown by the flow diagram **900** of FIG. **9**. The process begins with start, step **915**. After the user views the SPAM message, the user positions a cursor in from of an icon **917**, which can be a SPAM icon or the like such as the ones described herein, but can be others. The user clicks onto the icon (step **919**), which begins a process to remove the SPAM, remove the user's name from an e-mail distribution list, reports the SPAM to a SPAM policing server, as well as perform other functions. In particular, the process sends (step **921**) an e-mail message to the spammer or distributor with a "remove" request. The e-mail message is transmitted (step **923**) to the spammer via the wide area network of computers or Internet. By way of the present process, the user can click onto an icon to remove the SPAM, to send a remove reply to the sender to permanently remove the name of the user from a junk mail e-mail distribution list, and to send the SPAM to a SPAM policing server.

The spammer or sender receives the remove reply message (step **929**) via the wide area network of computers or Internet. The sender generally receives such remove reply via e-mail message or other technique. The sender then removes (step **930**) the name of the user from the e-mail distribution list or the like from memory of a server, for example. This occurs manually or automatically according to a specific process. Once the user name is removed, an acknowledgment or confirmation message (step **933**) can be sent to the user by way of e-mail. The e-mail message traverses through the wide area network of computers or Internet and ends up in the users e-mail box. The present process then stops, step **935**. Processing by the SPAM policing server will be described below.

The present methods can be implemented in computer codes, where the codes can be separated or combined with others. Additionally the methods can be in the form of computer software and/or hardware. The software can be sepa-

rated or combined. Additionally, the software can be combined with hardware, which can be combined or separated. As merely an example, the present invention can use, for example, computer code in the form of macros from an e-mail program such as GroupWise, for example. The macros can be shown below.

```
Application (A1; "WPOffice"; Default; "US")
ItemReply (ReplyTo: Sender!; IncludeText: No!)
FocusSet (Place: Subject!)
DeleteWordRight ( )
Type (Text: "REMOVE")
ItemSend ( )
ItemDeleteOpenItem ( )
```

The codes shown above are merely examples and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize other variations, modifications, and alternatives.

In another embodiment of the present invention, the computer code is also in the form of macros from an e-mail program such as GroupWise, for example. The following macro illustrates deletion of the SPAM, sending of a remove request to the spammer, and updating of the user's built-in e-mail filtering capability. In particular, sets the e-mail filter to filter-out e-mail messages from the same sender. The macros can be shown below.

The codes shown above are merely examples and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize other variations, modifications, and alternatives.

IV. Reporting Embodiments

FIG. **10** illustrates a simplified reporting embodiment of the present invention. FIG. **10** illustrates a recipient at computer system **1000**, a sender **1010** of unwanted e-mail, a sender ISP **1020** and a recipient ISP **1030**. Recipient ISP **1030** includes a mail server **1040** and a log **1050**, computer system **1000** includes a mail client **1060** and a log **1070**, and ISP **1020** includes a log **1080**.

Sender **1010** is typically coupled to ISP **1020** by any typical network connection such as a dial-up connection, dedicated ISDN line, cable connection, satellite link and other wireless links, and the like. Computer system **1000** is also coupled to recipient ISP **1030** by any conventional network connection mentioned above, as well as other methods that become conventional in the future. Recipient ISP **1030** is coupled to ISP **1020** by the Internet, typically through a number of intermediary machines.

ISP **1020** and recipient ISP **1030** are typically companies that hold themselves out as Internet service providers (ISPs). However it should be understood that ISP **1020** and recipient ISP **1030** refer to any computers that provide e-mail services to senders or recipients. For example, subscription service providers such as America On-Line (AOL), Prodigy, Microsoft Network (MSN), and the like are considered ISP within the scope of embodiments of the present invention.

```
Application (A1; "WPOffice"; Default; "US")
Declare(SourceMessageID)        //*     ID of read message
Declare(ReplyMessageID)         //*     ID of reply message
Declare(SpammerID)              //*     String of message source
Declare(UserID)                 //*     String of user's ID
Declare(ReportToID)             //*     String of reporting address
Declare(DocName)                //*     Save File Name truncated
Declare(RuleMessage)            //*     Rule message
Declare(RuleSubject)            //*     Rule Subject
Declare(RuleName)               //*     Rule name
Declare(RuleMessageText)        //*     Rule filters text in message
Declare(ReplySubject)           //*     Rule Subject
ReportToID: = "SPAM policing server           //*     report to SPAM policing server
UserID: = "SYP"                 //*     for test purposes
//*       RuleName:="spamfilter"        //*     test
RuleMessageText:="spam"         //*     test
RuleSubject:=" – REMOVE"        //*     Rule reply subject line
RuleMessage:="Sender has previously requested removal from your e-mail distribution
list. You have not honored that request and thus are in violation of____U.S.C._____,
as well as other Federal Regulations. You are subject to $500 fine for this violation, and
you are being reported to Federal and State Authorities."                //*     Message for rule filter
ReplySubject:=" – REMOVE"
ItemRead ( )                    //*     Open message in in-box
SourceMessageID:=ItemMessageIDFrom View ( )                      //*     Set Source ID
SpammerID:= ItemGetText(SourceMessageID;From!)                   //*     Source of message
RuleName:=SubStr(SpammerID;1;6)                          //*     use truncated sender name as
the rule name
ItemReply (ReplyTo: Sender!; IncludeText: No!)           //*     Reply to message
ReplyMessageID:=ItemMessageIDFromView ( )                //*     Set Reply ID
TextSetSubject(ReplySubject;True)       //*     Generate removal request e-mail subject line
ItemSend( )                     //*     Sends the reply e-mail
ItemArchive(SourceMessageID)    //*     Save a copy of the spam
ItemDeleteOpenItem( )           //*     Delete the spam!
//*       Next we set a new rule in response to the SpammerID
RuleCreate(;RuleName;NewItem!;Inbox!;No!;Yes!;No!;No!;No!;;;;;RuleMessageText;;;;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;)    //*     Creates new rule
RuleAddActionArchive(;RuleName)
RuleAddActionReply(;RuleName;ToSender!;ReportToID;;RuleSubject;;RuleMessage;Us
erID;)                          //*     Rule creates automatic reply e-mail
//* RuleAddActionArchive(;RuleName)       //*     if archival desired
RuleAddActionEmptyItem(;RuleName)        //*     Rule deletes repeat spam
```

Typically, a recipient at computer system **1000** receives an unwanted e-mail message using mail client **1060**. Mail client **1060** receives this e-mail message from mail server **1040** resident on recipient ISP **1030**. Recipient ISP **1030** receives the e-mail message originated from ISP **1020** and sender **1010** through well known methods.

Using the above described embodiment of the present invention, in response to the unwanted e-mail message, the recipient requests removal from the e-mail mailing list with a single user input, such as a click of an icon, by voice command, and the like. In response to the request, the present embodiment logs the e-mail message and the removal request. In some embodiments of the present invention, the log may store and/or archive the entire message, the e-mail address of the sender, a portion of the message, the date, and the like. In alternative embodiments of the present invention, other distinguishing features of the unwanted e-mail can also be logged, such as the address of ISP **1020**, and the like.

The date when the user requests removal is also typically logged, although not necessary since the junk e-mail message is already logged. In the present embodiment, logging information is maintained in log **1070** (a database) in computer system **1000** alternatively in separate files within a particular directory, and the like.

When subsequent e-mail messages are "Removed" using embodiments of the present messages, these e-mail messages are compared to previous e-mail messages stored in log **1070**. For example, comparison can be on the basis of sender name, e-mail address, telephone number, mail address, and the like. If a match is found, meaning sender **1010** has failed to respect the recipient's previous request to be removed from the senders e-mail list, several different courses of action may be taken.

One action includes notifying the recipient at computer system **1000** of the violation. In such a situation, log **1070** would provide evidence that the recipient previously requested removal from the e-mail mailing list, but was still sent another e-mail. With such evidence, the recipient can contact ISP **1020**, for example, to notify ISP **1020** that sender **1010** failed to comply with the recipient's request. ISP **1020** may then terminate sender's **1010** account, or request that sender **1010** complies with requests for removal as a condition of continued service. Typically the relevant portion of log **1070** may be attached to the e-mail.

Another action includes automatically notifying ISP **1020** of sender's **1010** failure to comply with the recipient's request, as described above, using e-mail filters. Such a notification is typically through e-mail. A benefit to this action is that recipient need not perform any special action besides selecting the one-button "removal" embodiment of the present invention. If sender **1010** is deliberately ignoring recipient's requests, ISP **1020** is immediately made aware of this action by, presumably, the large number of reply e-mail messages from recipients. ISP's **1020** incentive to take action, for example, suspending sender's **1010** account, and the like includes being labeled as a junk e-mail ISP.

In yet another embodiment, the notification goes to a government authority or a SPAM policing server. This SPAM policing server keeps logs and keeps track of each notification. When a spammer or a sender violates a rule that has been set-up, the SPAM policing server provides an additional notification to the sender. In some embodiments, the SPAM policing server also sends information out to governmental authorities for enforcement. In still further embodiments, the SPAM policing server sends out information to the ISP **1020** to terminate the sender's account. Still further, the SPAM policing server may utilize software tools that disable ISP **1020** or the spammer's ability to send e-mail messages. Depending upon the embodiment, one or more of the above may take place.

In one embodiment, notification of SPAM to the SPAM policing server may occur when the first SPAM is sent, not necessarily when SPAM from the same source, or the like is detected. In such an embodiment, earlier notice of SPAM may be possible.

In one embodiment, e-mail filtering tools can be included in the present invention to filter-out e-mail messages from junk e-mail ISPs. If it is determined that a threshold number (even one) of e-mail messages are from a particular ISP, and/or particular ISP's are not taking action in response to repeated "removal" requests by their senders, in one embodiment, the user may be prompted to place a particular ISP on a filter-out list, as illustrated above. In such a situation, future e-mails from that ISP will be automatically filtered out of a recipient's in-box. Alternatively, placement of a particular ISP on a filter-out list may occur automatically if the threshold number is exceeded. As an enhancement, it is contemplated that such subsequent e-mail messages are automatically replied to also with "remove" requests, and the like. The subsequent e-mail messages and "remove" requests are typically also logged for evidentiary purposes.

In one embodiment of the present invention, when a threshold number of e-mail messages from a junk e-mail sender or ISP are received, despite the "removal" request, this information is forwarded to a central junk e-mail database server (possibly the same as the SPAM policing server). The information automatically sent may include the relevant portions from log **1070**. Because it is envisioned that there is wide acceptance and use of embodiments of the present invention, it is contemplated that the database server would serve as a central clearing house of junk e-mail data. For example, which senders of junk e-mail are the most prolific or ignore the "Remove" requests, which ISPs provide havens for junk e-mail senders, which ISPs do not stop junk e-mail senders, and the like. Such a database can provide valuable information to ISPs, local, state and federal law enforcement authorities, "netizens", and the like. The database server may hosted by an organization, a service provider such as AOL, Hotmail, Earthlink, Bright Light Technologies, and the like.

In one embodiment of the present invention, the SPAM policing server determines data files that can be used in conjunction with e-mail filter tools, as illustrated above. In one embodiment, end-users may download updated data files via the Internet, for example, and in another embodiment, the SPAM policing server may periodically send updated data files for the filtering software to subscribers or users. Such filtering tools may be an integral part of the e-mail program, as in the case of GroupWise and Outlook, alternatively, the filtering tools may also work in conjunction with such programs. Embodiments of the filtering tools may also be applied to web-based and subscription-base e-mail systems.

In another embodiment of the present invention, it is contemplated that although the SPAM policing server maintains a permanent record of junk e-mail senders, and the like, the data files for the e-mail filters are drawn from a particular time window. For example, spammer may be identified in the data files for the most recent three months, for the most recent four weeks, and the like. Further, some junk e-mail senders may be seasonal, thus filtering data files will include such seasonal e-mail senders during particular times of the year. Such an embodiment prevents the filtering data files and e-mail filtering software from getting too large and unwieldy. Because some junk e-mail senders and ISPs are "fly-by-night" orga-

nizations, the time window where some junk e-mail is sent is limited to reduce "stale" spammers.

In one embodiment, when a threshold number of reports regarding the same SPAM, spammer, or the like are received by the SPAM policing server, only then will the SPAM, spammer, or the like be transferred to the filter-out data file. A threshold may be determined by number of reports, geographic area of such reports, and the like. Such an embodiment would reduce the chance of a small group of disgruntled e-mail recipients to brand legitimate e-mail messages as SPAM

In another embodiment of the present invention, data files for e-mail filters may be based upon frequency of complaints from e-mail recipients, preferably based upon the log comparing techniques described above. For example the top 100/500/1000 junk e-mail senders or ISPs can be identified in the data files and filtered out by e-mail recipients. In other embodiments of the present invention, combinations of the above techniques can be used to determine what junk e-mail senders, and the like should be filtered-out. In general, when implemented world wide, it is contemplated that database server identifies junk e-mail senders and ISPs that do not adhere to etiquette of the Internet, and to local, state, and federal laws.

An additional action includes automatically notifying ISP **1030** of sender's **1010** failure to comply with the recipient's request along with a relevant portion of log **1070**. If ISP **1030** determines there is a pattern of non-compliance from certain ISPs or e-mail senders, ISP **1030** may approach governmental authorities with such information, post such information on their web site, or send such information to a "clearing house" of such information, as described above. In the latter two cases, ISPs or e-mail senders' may become "persona non grata" (blacklisted) on the Internet and/or e-mail from these sources are filtered-out by recipients. An example of one such "clearing house" of information related to junk e-mail, or unsolicited commercial e-mail (UCE) is found at the following web site: http://www.cauce.org/

FIG. **11** illustrates a flow diagram of an embodiment of the present invention. The description of FIG. **11** incorporates references found in FIG. **10**, but should not be limiting. Initially a unwanted e-mail message is received by a recipient on computer system **1000**, step **1100**. The recipient then utilizes the above described embodiment of the present invention to efficiently request removal from the e-mail mailing list, step **1110**. Next, characteristic features of the e-mail message, such as the header information, the senders name, address, etc, the subject line, and the like are stored in log **1070**, step **1120**. The date for request for removal, and/or the reply message is also stored in log **1070**, step **1130**.

Subsequently log **1070** is searched for previous instances of the same e-mail message, the same sender, same header information, and the like, step **1140**. If there is a match in log **1070**, the recipient is notified, step **1150**. In addition, or alternatively as disclosed above, an e-mail message is sent to ISP **1020** detailing how sender **1010** has ignored the recipient's previous requests, step **1160**. In addition, or alternatively as disclosed above, an e-mail message is also sent to ISP **1030** with similar information, step **1170**.

In one aspect, the present embodiment is also useful where sender **1010** is violating ISP's **1020** terms of use conditions. For example, ISP **1020** may not realize sender **1010** is sending out unwanted e-mail, in violation of the ISP's terms of service and use, until an e-mail is sent to ISP **1020** notifying them that sender **1020** has not been honoring the "remove" request.

The present embodiment is also useful where there is "hijacking" of an ISP address. As is known in the industry, "hijacking" or "spoofing" occurs when senders **1010** use an ISP's address as a source of the unwanted e-mail messages, although the ISP is not senders **1010** true ISP. In such a case, typically when the unwanted e-mail message is replied-to, the reply e-mail will bounce because the sender is not at the ISP's address. Thus, in the present embodiment, when an ISP begin receiving messages indicating that sender **1010** has not heeded recipients' requests for removal, the ISP is then on notice of the address hijacking or spoofing. As a result, the ISP will typically determine the true ISP or the sender in order to protect their on-line reputation.

In other embodiments of the present invention, the reply-to address of e-mail message is not used, but instead the "true" address is used. In the situation where there is a high degree of "hijacking" or "spoofing" occurring, embodiments of the present invention can be implemented to automatically trace the true ISP address of the junk e-mail sender based upon the e-mail header information.

Although the above invention has been described using a specific sequence of steps. It would be recognized that other variations can exist. For example, the sequence of steps can be changed in order. Additionally, a step in the sequence of steps can be removed. For example, as described above, reporting of SPAM may occur the first "bite of the SPAM apple," not only when the spammer takes the second "bite of the SPAM apple."

If, as is expected, world wide usage of the inventions disclosed in this application occurs, hundreds of millions of users will be able to quickly, and easily identify and report occurrences of SPAM being sent with a single click of a button. In an alternative embodiment, a reduced number of users will have the ability to directly report to the SPAM servers. In such embodiments, a sampling of SPAM messages may be taken, regional SPAM policing servers may be set-up, particular power-users may be selected, and the like, to reduce the SPAM reporting data load.

In a timely manner, a SPAM policing server can then receive the SPAM notice, process the SPAM, update the filter-out data files, and update e-mail filters almost immediately. Because of the timeliness of the SPAM detection turn-around time, it is expected that there is less of an incentive for spammers to continue their spamming.

Alternatively, steps in the sequence can be combined. Furthermore, an additional step or steps can be inserted. These and other combinations will be apparent to those of ordinary skill in the art.

In light of the disclosed embodiments, enhancements to the present invention include additional icons within an e-mail program can be provided to reply in other ways to e-mail messages in general. For example, in office environments, commonly meetings are scheduled by e-mail. Such e-mail messages often request recipients of the message to reply to the message or to send an e-mail message to a third party so there can be a head count for seating, purposes, for providing the correct amount of refreshments, for printing the enough meeting materials, and the like. Such e-mail messages require the user to perform time consuming tasks such as determining who a reply e-mail message must be sent to, typing in a message, calling a person by telephone, and the like. In this example, a standardized method for replying to such meeting invitations can be accomplished by providing an confirm icon, on the users' e-mail system. In such an embodiment, when the user sees such a request, by simply clicking upon the confirm icon, the user confirms their attendance.

While the above is a full description of the specific embodiments, various modifications, alternative constructions and equivalents may be used. For example, the above techniques

for removal may be applied towards e-mail server programs such as Groupwise, Outlook, and the like; web-based e-mail services such as HotMail, Yahoo!, Excite, and the like; ISP providers such as Earthlink GeoCities, and the like; subscription services such as AOL, Compuserve, Prodigy, and the like. Further, the techniques for filtering may be applied to the e-mail services described above, in addition to SPAM filtering software, such as provided by Bright Light Technologies, and others. Therefore, the above description and illustrations should not be taken as limiting the scope of the present invention which is defined by the appended claims.

What is claimed is:

1. A memory device having instructions stored thereon that, in response to execution by a processing device, cause the processing device to perform operations comprising:

receiving an e-mail communication addressed to a recipient, wherein the e-mail communication is sent from an e-mail source;

comparing an identity of the e-mail source to a list of sources associated with sending unwanted e-mail communications;

identifying a previous request initiated by the recipient to remove the recipient from a distribution list of the e-mail source, wherein the previous request was transmitted to the e-mail source in response to receiving a first unwanted e-mail communication from the e-mail source; and

detecting the e-mail communication as a second unwanted e-mail communication associated with the e-mail source based, at least in part, on the identification of the previous request to remove the recipient from the distribution list.

2. The memory device of claim **1**, wherein the operations further comprise receiving a further request to remove the recipient from the distribution list, wherein the identity of the e-mail source is compared with the list of sources in response to receiving the further request.

3. The memory device of claim **1**, wherein the operations further comprise:

determining a number of violations associated with the e-mail source; and

reporting the e-mail source to be in violation of the further request to remove the recipient from the distribution list in response to determining that the number of violations exceeds a threshold number.

4. The memory device of claim **3**, wherein the operations further comprise inhibiting a second e-mail communication associated with the e-mail source from being sent to a second recipient based, at least in part, on the determination that the number of violations exceeds the threshold number.

5. The memory device of claim **1**, wherein the operations further comprise:

receiving the first unwanted e-mail communication, wherein the first unwanted e-mail communication is addressed to the recipient; and

in response to receiving the first unwanted e-mail communication, transmitting the previous request to the e-mail source.

6. The memory device of claim **1**, wherein the operations further comprise:

transmitting the previous request to the e-mail source; and

storing the previous request in a database comprising other requests associated with the list of sources, wherein the identity of the e-mail source is compared to the list of sources based, at least in part, on a comparison of the previous request to the other requests stored in the database.

7. The memory device of claim **1**, wherein the operations further comprise inhibiting a second e-mail communication associated with the e-mail source from being sent to a second recipient based, at least in part, on the identification of the previous request.

8. A method, comprising:

receiving, with a processing device, an e-mail communication addressed to a recipient, wherein the e-mail communication is associated with an e-mail source;

comparing, with the processing device, an identity of the e-mail source to a list of sources associated with unwanted e-mail communications;

identifying, with the processing device, a previous request initiated by the recipient to remove the recipient from a distribution list of the e-mail source, wherein the previous request was transmitted to the e-mail source in response to receiving a first unwanted e-mail communication from the e-mail source; and

detecting, with the processing device, the e-mail communication as a second unwanted e-mail communication associated with the e-mail source based, at least in part, on the identification of the previous request to remove the recipient from the distribution list.

9. The method of claim **8**, further comprising:

receiving, with the processing device, the first unwanted e-mail communication; and

in response to receiving the first unwanted e-mail communication, transmitting the previous request to the e-mail source.

10. The method of claim **8**, further comprising:

receiving, with the processing device, the previous request to remove the recipient from the address list; and

in response to receiving the previous request, transmitting the previous request to the e-mail source.

11. The method of claim **8**, further comprising inhibiting, with the processing device, the e-mail communication from being sent to the recipient based, at least in part, on the identification of the previous request to remove the recipient from the distribution list.

12. The method of claim **8**, further comprising reporting, with the processing device, the e-mail source to be in violation of the previous request to remove the recipient from the address list.

13. The method of claim **8**, further comprising receiving, with the processing device, a further request to remove the recipient from the distribution list, wherein the identity of the e-mail source is compared with the list of sources in response to receiving the further request.

14. The method of claim **8**, further comprising:

receiving the previous request; and

in response to receiving the previous request, transmitting the previous request to the e-mail source.

15. The method of claim **8**, further comprising:

generating the previous request; and

transmitting the previous request to the e-mail source.

16. A system, comprising:

a database configured to store a plurality of requests associated with a receipt of unwanted e-mail communications; and

a processing device configured to:

identify a first request initiated by one or more recipients, and transmitted to an e-mail source to remove the one or more recipients from a distribution list of the e-mail source, wherein the first request is associated with a first unwanted e-mail communication from the e-mail source;

store the first request in the database, wherein the first request identifies the e-mail source as being associated with the first unwanted e-mail communication;

identify a second request initiated by one or more recipients, and transmitted to the e-mail source to remove the one or more recipients from the distribution list of the e-mail source, wherein the second request is associated with a second unwanted e-mail communication from the e-mail source;

store the second request in the database, wherein the second request identifies the e-mail source as being associated with the second unwanted e-mail communication;

determine a number of violations associated with the e-mail source; and

report that the e-mail source is in violation of sending the unwanted e-mail communications in response to determining that the number of violations exceeds a threshold number.

17. The system of claim **16**, wherein the processor is further configured to:

receive an e-mail communication associated with the e-mail source; and

delete the e-mail communication based, at least in part, on the determination that the number of violations exceeds the threshold number.

18. The system of claim **16**, wherein the processor is further configured to:

receive an e-mail communication associated with the e-mail source; and

inhibit the e-mail communication from being transmitted to a recipient based, at least in part, on the determination that the number of violations exceeds the threshold number.

19. The system of claim **16**, wherein the processor is further configured to:

receive the first request from a first recipient associated with the first unwanted e-mail communication; and

receive the second request from a second recipient associated with the second unwanted e-mail communication.

20. The system of claim **16**, wherein the processor is further configured to:

receive the second request from a first recipient;

receive an e-mail communication addressed to a second recipient; and

inhibit the e-mail communication from being transmitted to the second recipient based, at least in part, on the determination that the number of violations exceeds the threshold number.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 8,219,627 B2
APPLICATION NO. : 12/729186
DATED : July 10, 2012
INVENTOR(S) : Pang

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title page, illustrative fig(s). 3 should be deleted and substitute therefor the attached title page consisting of illustrative fig(s).

On the Title Page, in Column 1, under "Related U.S. Application Data", Line 1, delete "(60)" and insert -- (63) --, therefor.

On the Title Page, in the Figure, above Tag "311", Line 1, delete "My Calandar" and insert -- My Calendar --, therefor.

In the Drawings

The drawing sheets 3 and 7 of 11 consisting of fig(s) 3 and 7 should be deleted and substitute therefor the attached drawing sheets 3 and 7 of 11 consisting of fig(s) 3 and 7.

In Fig. 3, Sheet 3 of 11, above Tag "311", Line 1, delete "My Calandar" and insert -- My Calendar --, therefor.

In Fig. 7, Sheet 7 of 11, for Tag "731", adjust the text in the box.

In the Specifications

In Column 1, Line 7, delete "11/862,195" and insert -- U.S. application Ser. No. 11/862,195 --, therefor.

In Column 1, Line 11, delete "11/862,195" and insert -- U.S. application Ser. No. 11/862,195 --, therefor.

In Column 1, Line 48, delete "time" and insert -- time. --, therefor.

Signed and Sealed this
Thirtieth Day of April, 2013

Teresa Stanek Rea
Acting Director of the United States Patent and Trademark Office

In Column 2, Line 55, delete "recipients" and insert -- recipient's --, therefor.

In Column 2, Line 58, delete "email" and insert -- e-mail --, therefor.

In Column 4, Line 21, delete "attached" and insert -- attached. --, therefor.

In Column 4, Line 36, delete "DESCRIPTION" and
insert -- DETAILED DESCRIPTION --, therefor.

In Column 8, Line 36, delete "receivers" and insert -- receiver's --, therefor.

In Column 8, Line 41, delete "receives name" and insert -- receiver's name --, therefor.

In Column 9, Line 60, delete "a "ACKNOWLEDGE" and
insert -- an "ACKNOWLEDGE --, therefor.

In Column 10, Line 37, delete "from" and insert -- front --, therefor.

In Column 15, Line 11, delete "SPAM" and insert -- SPAM. --, therefor.

In Column 15, Line 42, delete "a unwanted" and insert -- an unwanted --, therefor.

In Column 16, Line 61, delete "an confirm" and insert -- a confirm --, therefor.

In Column 17, Line 2, delete "Groupwise," and insert -- GroupWise, --, therefor.

In Column 17, Line 38, in Claim 3, delete "1," and insert -- 2, --, therefor.

(12) **United States Patent**
Pang

(10) **Patent No.: US 8,219,627 B2**
(45) **Date of Patent: *Jul. 10, 2012**

(54) **SYSTEM FOR POLICING JUNK E-MAIL MESSAGES**

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(73) Assignee: **Fortune Communications, L.L.C.**, Dover, DE (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 77 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/729,186**

(22) Filed: **Mar. 22, 2010**

(65) **Prior Publication Data**

US 2010/0325728 A1 Dec. 23, 2010

Related U.S. Application Data

(60) Continuation of application No. 11/862,195, filed on Sep. 27, 2007, now Pat. No. 7,685,242, which is a division of application No. 10/656,502, filed on Sep. 4, 2003, now Pat. No. 7,275,082, and a continuation of application No. 11/841,883, filed on Aug. 20, 2007, now Pat. No. 7,779,080, which is a continuation of application No. 10/656,502, filed on Sep. 4, 2003, now Pat. No. 7,275,082, which is a continuation of application No. 09/353,537, filed on Jul. 14, 1999, now abandoned.

(60) Provisional application No. 60/093,120, filed on Jul. 15, 1998.

(51) **Int. Cl.**
G06F 15/16 (2006.01)

(52) **U.S. Cl.** **709/206**

(58) **Field of Classification Search** 709/206
See application file for complete search history.

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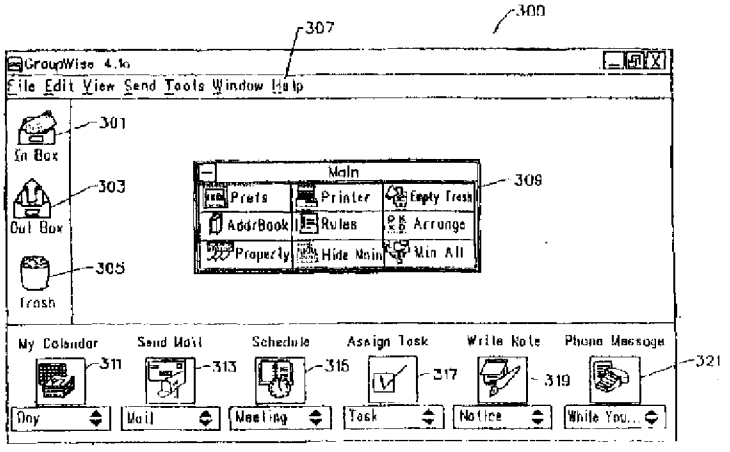
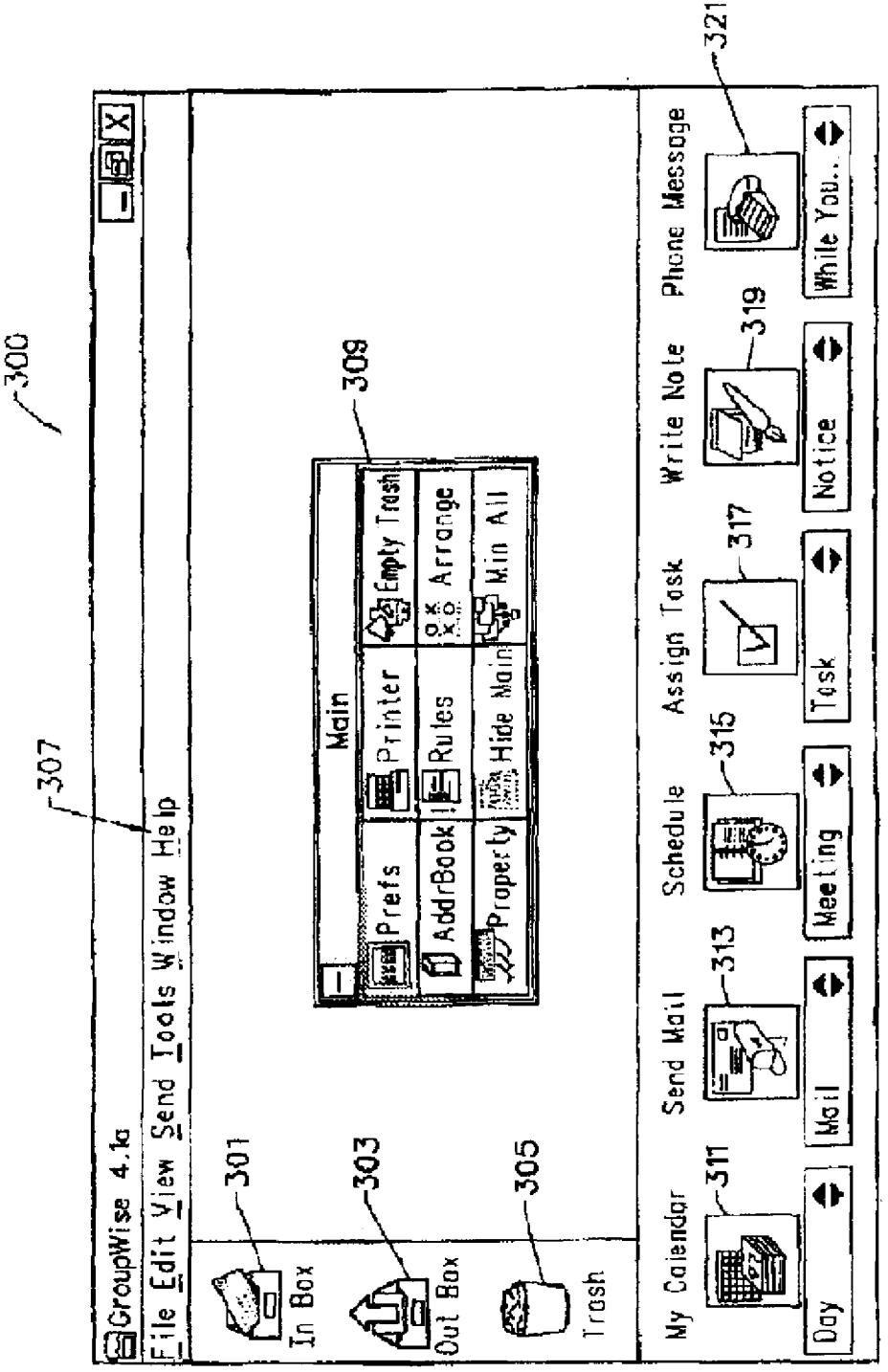
Primary Examiner — Minh-Chau Nguyen
(74) *Attorney, Agent, or Firm* — Stolowitz Ford Cowger LLP

(57) **ABSTRACT**

A system for policing an unsolicited e-mail communication. The system has a plurality of clients, each coupled together using a wide area network of computers, such as the Internet or an interne. Each of the clients is adapted to send an indication of an unsolicited e-mail message through an e-mail device for a display. The system also has a policing server coupled to each of the plurality of clients through the wide area network of computers. The policing server is adapted to receive the indication from at least one of the clients. The e-mail device comprises a SPAM icon on the display. The SPAM icon is adapted to send the indication from the client to the policing server.

20 Claims, 11 Drawing Sheets




300
307
GroupWise 4.1a
File Edit View Send Tools Window Help
301
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303
Out Box
305
Trash
309
Main
Prefs
Printer
Empty Trash
AddrBook
Rules
Arrange
Property
Hide Main
Min All
My Calendar
Send Mail
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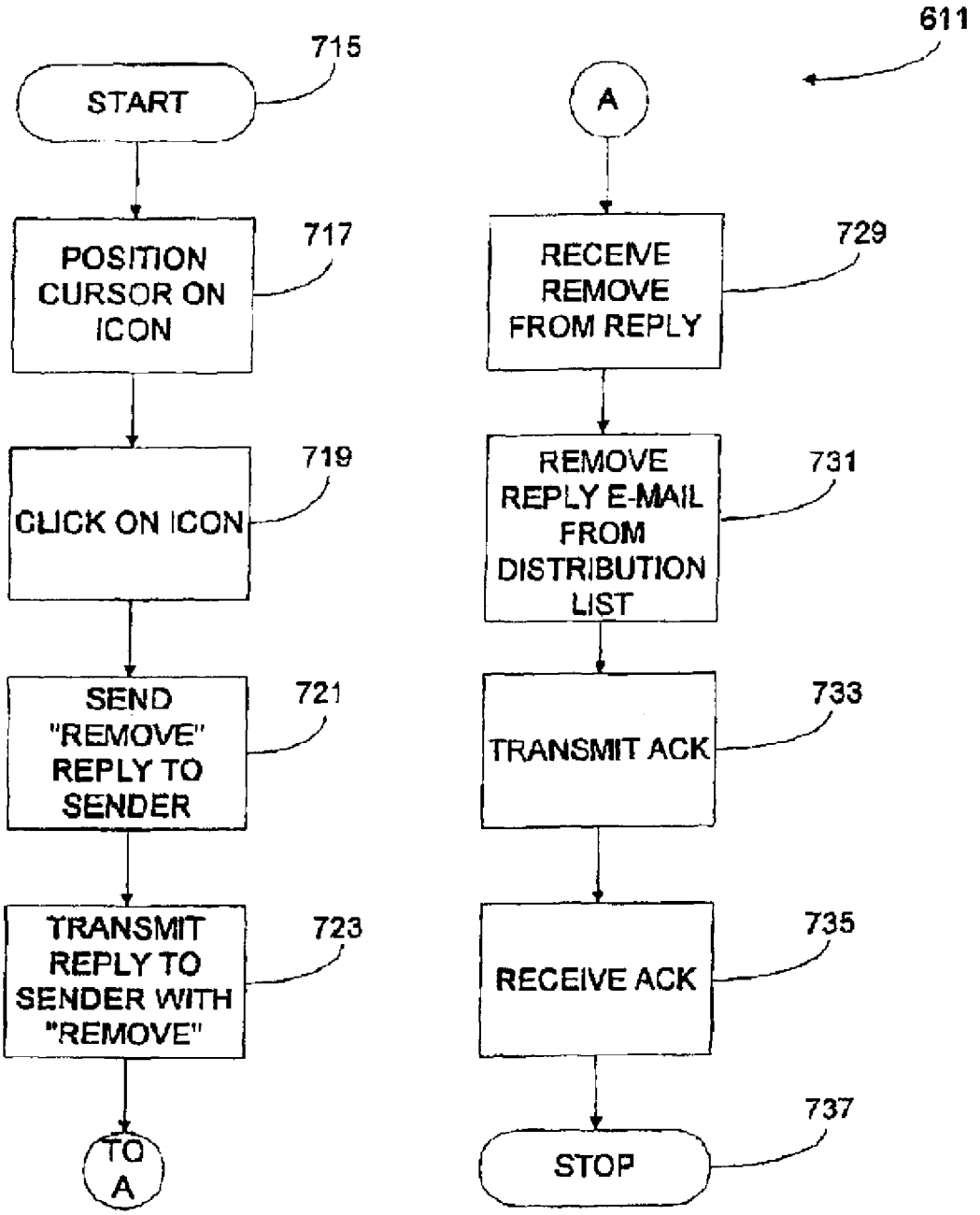
311
313
315
317
319
321
Day
Mail
Meeting
Task
Notice
While You..

FIG. 3


715
START
717
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719
CLICK ON ICON
721
SEND "REMOVE" REPLY TO SENDER
723
TRANSMIT REPLY TO SENDER WITH "REMOVE"
TO A
611
A
729
RECEIVE REMOVE FROM REPLY
731
REMOVE REPLY E-MAIL FROM DISTRIBUTION LIST
733
TRANSMIT ACK
735
RECEIVE ACK
737
STOP

FIG. 7